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REVEGETATION TEST PLOT RESULTS

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Submitted To:

Chervon Resources
Manila Star Route
Vernal, Utah 84078

Submitted By:

NPI
417 Wakara Way
University Research Park
Salt Lake City, Utah 84108

December 1983

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TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

Study plots were established during May, 1982 at the Chevron Vernal Phosphate Operation approximately 12 miles north of Vernal, Utah. These plots were established in a former juniper vegetation type with an annual precipitation rate of approximately 10-11 inches. The objectives of the study plots were to answer important questions regarding revegetation at the site. These objectives were:

1. Identify the potential of alternate growth media. Since topsoil is limited, the potential benefit of alternate growth media was evaluated.
2. Evaluate the effectiveness of drill seeding and broadcast seeding in establishing vegetation. Since shrub seed is often trashy and the seed can be extremely small, it was important to evaluate whether this seed could be effectively established using Chevron's rangeland drill or whether separate broadcast seeding of shrubs would be beneficial.
3. Identify species suitable in the area to the different growth media. It is important to determine suitable species and varieties for the site specific conditions encountered in order to properly meet post-mining land use objectives.
4. Identify the potential of using containerized shrub and tree species. Since many shrub and tree species are difficult to establish from seed, particularly under harsh conditions, it was important to investigate an alternative method of establishment.
5. Evaluate the effectiveness of water harvesting techniques. This was thought to be critical with some growth media since the water

holding capacity of the growth media was limited.

6. Evaluate the effectiveness of fertilizer on vegetation establishment and plant survival. Since all growth media were low in fertility, this treatment was included.

This report is the second evaluation performed on these test plots and represents data collected two growing seasons following test plot establishment. For information evaluating vegetation establishment one growing season following test plot establishment and for details on the establishment of the test plots, refer to Study Plot Establishment and Results, Native Plants, Inc., December 1982.

METHODS

The following is a brief review of the treatments used on the test plots.

- Growth media. Six different growth media were evaluated for their influence on vegetation establishment. These included topsoil, subsoil (Mackentire formation or "red beds"), overburden, tailings/topsoil mix (1:1 ratio), tailings subsoil mix (1:1 ratio) and a tailings/overburden mix (1:1 ratio).
- Containerized outplants. Containerized, 10-month old tubelings of five species were planted with a rooting volume of 13 cu. in. Plants were evenly spaced on 3-ft. centers (Table 1).
- Catchment basins. Containerized outplants were planted in basins approximately 2 ft. in diameter and six inches deep or were flat planted (level with the soil surface).
- Seeding. Two seed mixes were applied, a shrubland mix and a grassland mix (Tables 2,3). The grassland mix was drill seeded at a rate of 15.1 lbs/acre, PLS.[1] The shrubland mix was: (1) broadcast seeded at a rate of 36.6 lbs, PLS and covered using a chain-link material pulled by a pick-up truck; and (2) drill seeded at a rate of 10 lbs/acre, PLS. Because of their limited size, plots using tailings sand were only drill seeded with the grassland mix.

[1]PLS denotes Pure Live Seed. Non-germinable seed, other seeds, and trash are discounted or removed from a seed lot.

Table 1. Shrub and tree species established from containerized outplantings.

Scientific Name	Common Name
Artemisia frigida	fringed sage
Artemisia nova	black sage
Cercocarpus montanus	mountain mahogany
Juniperus scopulorum	Rocky Mtn. juniper
Rosa woodsii	woods rose

Table 2. Shrubland Seed Mix

Species	Drill Seed Relative lbs/acre	Broadcast Seed lbs/acre
Agropyron inerme 'Whitmar'	1.0	3.6
Ceratoides lanata	1.0	3.6
Cercocarpus montanus	1.0	3.6
Artemisia tridentata	0.1	0.4
Kochia prostrata	0.5	1.8
Atriplex canescens	1.4	5.2
Chrysothamnus nauseosus	0.3	1.0
Purshia tridentata	1.4	5.2
Oryzopsis hymenoides 'Nezpar'	1.6	5.8
Linum lewisii	0.5	2.0
Sphaeralcea munroana	0.2	0.8
Astragalus cicer 'Monarch'	1.0	3.6
Total	10.0	36.6

Table 3. Grassland Seed Mix

Species	lbs/acre Drill Seeded
Agropyron intermedium 'Amur'	1.5
Agropyron dasystachyum 'Critana'	1.5
Agropyron smithii 'Rosanna'	1.5
Agropyron inerme 'Whitmar'	3.0
Agropyron trichophorum 'Luna'	1.5
Elymus cinereus 'Magnar'	2.3
Oryzopsis hymenoides 'Nezpar'	2.3
Melilotus officinalis	0.3
Medicago sativa 'Ladak'	1.2
Total	15.1

- Fertilizer. Approximately half of the containerized plants and half of the seeded areas were fertilized. The remainder were not fertilized. Containerized plants were fertilized using one Agriform™ tablet (21 g slow release, 20-N:10-P:5-K). Seeded areas were fertilized with 50 lbs available N/acre of prilled ammonium nitrate.

Basins, plantings, seedings, and fertilizer application were randomly assigned within each plot. Holes for containerized plants were drilled with a portable gasoline auger. The root portion was placed in the hole and soil medium placed about the root until about 1/2 of the rooting portion was covered. A fertilizer tablet was placed in the hole and the root portion was completely covered such that the top of the tubeling growth medium was slightly lower than flush with the soil surface. Soil was firmly tamped around the plant throughout the planting process.

All plants were watered in with approximately 3 qts of water/plant. Plants in basins were watered in once and plants that were flat planted were watered in twice to compensate for water loss via overland flow. Subplots were lightly sprayed prior to seeding, immediately following seeding, and the following day. (Plots were sprayed lightly one week following seeding.) This was an attempt to partially compensate for seeding so late in the spring.

A portion of each overburden plot was used to study the influence of water harvesting techniques. On the lower overburden plot terraces were establish using a D-9 bulldozer. The upper overburden plot was terraced in a 'patchwork' scheme to simulate dozer basins.

Seeding success and transplant survival were monitored at the end of the second growing season during September 1983. Vegetation cover and plant densities were estimated using a 0.5 m^2 quadrat. Four quadrats were

randomly placed in each subplot. On areas consisting of dozer basins and terraces located on overburden substrate, two of the four quadrats were placed in the basins or terraces and two were placed between the basins or terraces. Sampling skipped areas where rilling, due to overland flow from around the test plot area, destroyed portions of a subplot. At each quadrat, measures of cover and density were recorded. Cover was estimated visually utilizing a technique described by Daubenmire (1968)[1] modified to provide greater precision. Cover was divided into four categories: % total cover; % litter; % rock; and % bareground. Living cover was further subdivided into lifeform categories (tree, shrub, forb, annual forb, grass, and annual grass).

Plant survival of containerized plants was determined by recording whether each individual that was planted was alive or dead. Missing individuals were recorded as being dead. The vertical height of each live individual was recorded to the nearest centimeter. The highest point of the individual was the point to where height was measured except for black sage (Artemisia nova) where seed stalks were ignored and only the height of the largest vegetative branch was recorded. This was felt to provide a more reliable estimate of height since seed stalk lengths would probably vary more from year to year. Fringed sagebrush was recorded in a similar manner in 1982 but was changed to the height of the entire plant including seed stalks in 1983. This was because of the suffrutescent nature of fringed sagebrush and the fact seed heads and vegetative growth often occur on the same stalk. Because of this change, no attempt has been made to analyze changes in the height of fringed sagebrush between 1982 and 1983.

[1]Daubenmire, R.F. 1968. Plant communities: A textbook of Plant Synecology. Harper and Row Publishers. New York. 300 p.

The data from all these techniques were summarized for each subplot and this summary information was placed on computer magnetic storage media. Computer generated printouts of this data have been included in the appendix. Species names for seeded species were abbreviated using the U.S. Forest Service alpha code system. The symbol for each species consisted of the first two letters of the generic name plus the first two letters of the species name. If necessary, the third letter of the species name was added to make the code unique for each species. Individual quadrat data is kept as hard copies in NPI project files. Statistical analyses performed consisted of analysis of variance. Significance levels were set at $P \leq .05$.

RESULTS AND DISCUSSION

Shrubland Seed Mix

The cover of perennial and annual species was significantly affected by the growth medium ($P \leq .05$) (Table 4). Perennial vegetation cover on topsoil plots averaged 9.7%, overburden averaged 5.2% and subsoil (Mackentire formation) averaged 2.0%. The higher cover on the topsoil plots is expected due to the greater water holding and nutrient supplying characteristics of this growth medium. Although the cover on the topsoil plots is less than the cover that is reported to occur on undisturbed vegetation types in the area (18-26%) (see Reclamation Plan, Native Plants, Inc. 1982), this cover will increase, particularly as the shrubs develop. Previous reclamation efforts at the mine site indicate that the Mackentire formation is a superior growth media to the typical overburden. Results from these cover data alone may tend to contradict this. However, other data cited later show that seedling densities are high although the seedling individuals are still quite small. Establishment of cover from the more aggressive species in the grassland mix has been favorable. Establishment of the shrubland mix on the Mackentire formation, although initially slow, should greatly improve. The vegetation cover of the overburden material was extremely variable.

Annual vegetation cover was greatest on the Mackentire formation (22.3%) followed by the overburden material (12.3%) and topsoil (7.3%) and was inversely proportionate to the perennial cover on these soils. The annual cover on the Mackentire formation should decrease substantially in the future as perennial species become better established. The abundant annual cover on the Mackentire formation suggest a greater potential for perennial

Table 4. Vegetation establishment using the shrubland seed mix, two growing seasons following seeding.

	Topsoil					Subsoil					Overburden				
Broadcast Seeded	PC[1]	AC	S	G	F	PC	AC	S	G	F	PC	AC	S	G	F
Fertilized	9.2	6.7	1.4	8.7	3.7	3.0	28.7	0.5	6.7	1.5	3.8	8.9	1.0	3.2	2.0
Non-Fertilized	13.0	4.5	1.8	10.5	6.1	1.8	18.4	0.2	10.4	8.1	6.7	8.9	1.2	3.7	1.2
Drill Seeded															
Fertilized	8.4	10.1	0.1	1.6	1.2	1.7	26.1	0.0	3.8	0.6	0.2	21.6	0.0	3.7	0.2
Non-Fertilized	8.3	8.2	0.0	3.0	2.2	1.3	16.1	0.1	7.1	2.7	10.2	9.9	0.2	4.2	0.5

[1]PC = perennial cover (%), AC = annual cover(%), S = shrub density (individual/m^2), G = grass density (individual/m^2), F = forb density (individual/m^2)

vegetation establishment than that which has been exhibited to date with the shrubland mix. Fertilization significantly increased annual cover ($P \leq .05$). The annual species that dominated in this study included summer cypress (Kochia scoparia), russian thistle (Salsola kali), and halogeton (Halogeton glomeratus). These annual species appeared to make better use of the nitrogen than the perennial species. Delaying fertilization until after seedling emergence as recommended in the Reclamation Plan, should help minimize this problem and provide a more consistent benefit to perennial species. To help quantify the benefits of this approach, it is recommended that randomly selected subplots within each of the test plots be fertilized early this spring. The fall 1984 monitoring will then include a final analysis of this technique.

Shrub establishment using the shrubland mix was significantly affected by the seeding method ($P \leq .01$). Seedling establishment was 15x greater with broadcast seeding than with drill seeding. The broadcast seeding rate was 3.7x higher than the drill seeding rate. A higher broadcast seeding rate is usually recommended because lower establishment typically results if broadcast seeding and drill seeding rates are equal. Even taking into account the higher seeding rate of broadcast seeding, shrub seed had better establishment with broadcast seeding. The main reason for this was probably the result of poor seed dispersion using the rangeland drill. The rangeland drill became intermittantly clogged with winterfat seed, particularly in the dispensing tubes. Since there was a wide discrepancy in seed size, seed could not accurately be metered for each species. The rangeland drill can be adapted for fluffy seed by using "seed pickers" which pull seed into the dispensing tubes and using a wider diameter (2 inches) dispensing tube. Some of the reason for poor establishment of shrub seed was small seeded

species being seeded too deep. This can be adjusted by shortening the attachment chains or obtaining furrow openings with shallower depth bands. Broadcast seeding appears to be a better alternative for the establishment of shrubs, particularly without the above adjustments. This could be accomplished by using a fertilizer spreader to broadcast fluffy or trashy seed. Broadcast seed should then be harrowed by dragging a chain to cover the seed.

Criteria for evaluating the success of seeded stands on foothill ranges in the Intermountain Region receiving 11-13 inches of precipitation is contained in Valentine (1971)[1]. Using this criteria for the density of all seeded species, seedling establishment by broadcast seeding on topsoil (16.1 plants/m^2) and the Mackentire formation (13.7 plants/m^2) would be rated excellent while seedling establishment on the overburden substrate (6.2 seedlings/m^2) would be rated fair. Seedling establishment through drill seeding the shrubland mix ranged from poor to fair.

Shrub species with the highest densities as a result of direct seeding were winterfat (Ceratoides lanata) and fourwing saltbush (Atriplex canescens). A few bitterbrush (Purshia tridentata) seedlings were noted which were not present a year ago. This species has a hard seed coat and can take a while to break dormancy. No mountain mahogany (Cercocarpus montanus) or big sagebrush (Artemisia tridentata) seedlings were noted. The highest density of seeded forbs were Lewis blue flax (Linum lewisii) and cicer milkvetch (Astragalus cicer).

[1] J.F. Vallentine. 1971. Range Development and Improvements. Brigham Young University Press. Provo, Utah. pp. 278-279.

Grassland Mix

The cover of perennial species established with the grassland mix was also significantly affected by the growth medium ($P \leq .01$) (Table 5). Perennial vegetation cover on topsoil plots averaged 17.7%, followed by the tailings-topsoil plot (14.6%), Mackentire subsoil plots (9.2%), tailings-subsoil plots (8.3%), overburden plots (6.3%), and the tailings-overburden plots (4.0%). These cover values are higher than cover values achieved using the shrubland mix. This is not surprising since the shrubs and the forbs seeded in the shrubland mix are slower to establish. Also, drill seeding grasses often result in higher cover and productivity than with broadcast seeding during initial years following establishment, albeit species diversity may be less. The cover on the topsoil plots is beginning to approach the levels that have been reported to occur on undisturbed vegetation types in the area (18%-26%).

Annual vegetation cover, although not statistically significant because the high variation present, had a trend of increased annual cover on fertilized plots. This trend was similar to that which occurred with the shrubland mix.

Grass and forb densities were also significantly affected by the growth media. Topsoil plots were highest in plant density and overburden plots were lowest. Similar criteria as used previously to evaluate seeding success based on the density of seeded species results in the following ratings: topsoil (25.2 plants/m^2)-excellent, tailings-topsoil (19.1 plants/m^2)-excellent, tailings-overburden (13.3 plants/m^2)-excellent, Mackentire subsoil (12.4 plants/m^2)-excellent, tailings-subsoil (11.4 plants/m^2)-excellent, and overburden (7.4 plants/m^2)-good. Although the tailings-overburden had fairly high densities, these consisted of extremely

Table 5. Seedling establishment using the grassland seed mix, two growing seasons following seeding.

	Topsoil				Subsoil				Overburden			
	PC[1]	AC	G	F	PC	AC	G	F	PC	AC	G	F
Fertilized	17.5	2.2	15.3	10.0	10.7	17.0	10.5	2.5	1.4	19.1	0.7	0.7
Non-Fertilized	17.9	0.9	12.6	12.6	7.7	7.9	10.1	1.7	11.3	8.1	4.5	8.8

	Tailings-Topsoil				Tailings-Subsoil				Tailings-Overburden			
Fertilized	15.0	3.2	10.1	7.5	8.2	9.1	9.4	1.4	4.6	1.8	14.9	0.9
Non-Fertilized	14.2	1.7	10.4	10.3	8.5	3.0	10.1	1.9	3.4	2.5	9.9	0.9

[1]PC = perennial cover (%), AC = annual cover (%), G = grass density (individual/m^2), F = forb density (individual/m^2)

small seedlings which have high potential for mortality. Generally the grasses and forbs on topsoil plots were quite large and many had produced seed. Additional regeneration of individuals from this seed and from rhizome production should soon be evident.

Forb densities were adversely affected by fertilization ($P \leq .05$). These forbs are legumes and are nitrogen fixers. It should be expected that nitrogen fertilization would provide little benefit to their development. Increased annual forb production as a result of the fertilizer may have adversely affected forb establishment. As mentioned earlier, delaying fertilization until after seedling emergence should help increase the benefit of fertilization. In addition, phosphorus fertilizer should be used if an increase in legume development is desired.

The most commonly occurring seeded species included intermediate wheatgrass (Agropyron intermedium), alfalfa (Medicago sativa), and Indian ricegrass (Oryzopsis hymenoides).

Contour trenches and dozer basins which were established on overburden plots had significantly higher grass and forb densities than interspaces between these water harvesting devices. This was not only a result of increased water retention but soil also collected in these depressions thus improving the growth media. Several of the plots had fairly severe erosion from water running onto the plots from above. One problem in the basins that occurred was that excess water and soil was continually burying individuals. Many of the grass and forb individuals would fail to reach maturity.

Container Plants

Although Table 6 indicates small differences in survival between soils and different treatments, these differences were not statistically

Table 6. Percent survival of containerized plants, two growing seasons after planting.

Fertilized	Topsoil	Subsoil	Overburden	Tailings-Topsoil	Tailings-Subsoil	Tailings-Overburden
Flat planting	77	78	90	---	---	---
Basin planting	73	76	84	70	89	90
Non-Fertilized						
Flat Planting	86	90	86	---	---	---
Basin Planting	81	81	86	90	84	87

significant since there was quite a bit of variation between plots. There are several reasons for the lack of any significant differences. Precipitation has been above average for the past two years, thus minimizing any benefit from water harvesting (i.e., basins) and from soils with better water holding capacity (i.e., topsoil). Container plants have a greater root biomass and energy reserve than small seedlings established from seed. Therefore, factors affecting seedlings will not necessarily affect transplants in a similar method. A large portion of the initial mortality of transplants was due to burial, particularly of mountain mahogany in basins and on soils that were more susceptible to erosion such as the topsoil and subsoil plots (see Plot Establishment and Results, Native Plants, Inc., December 1982). Current survival rates are probably a holdover from mortality expressed during the initial growing season. Any long-term differences in survival among the different growth media is still overshadowed by results during the initial growing season.

Using a rating based on excellent survival >75%, good survival >50%, fair survival >25%, and poor survival >25%, then survival on all growth media would be rated as excellent. Table 7 contains the average survival of each species used in the test plots. The survival of all species, except mountain mahogany, would be rated as excellent (86%-96% survival). Mountain mahogany would be rated as low good (53% survival). Mountain mahogany does not usually outplant well. It has a slow developing root system and because of its short stature, was suceptible to burial during the first growing season. It should be noted that no mountain mahogany individuals were established from seed. This species appears to be the most difficult to establish of the species investigated on the test plots to date. Most fringed sage (Artemisia frigida) individuals have already been flowering and

Table 7. Percent survival of containerized plants, by species, two growing seasons after planting.

	Topsoil	Subsoil	Overburden	Tailings-Topsoil	Tailings-Subsoil	Tailings-Overburden
Artemisia frigida	96	94	95	96	100	96
Artemisia nova	88	86	94	83	79	88
Cercocarpus montanus	40	53	68	46	54	58
Juniperus scopulorum	97	88	97	88	100	100
Rosa woodsii	72	76	86	88	92	100

producing seed and several black sagebrush have also been flowering. Monitoring the natural reproduction of shrubs and trees that will be reestablished through transplanting will be extremely beneficial in determining the initial stocking rate required for optimum cost effective establishment of these individuals.

Table 8 contains heights of each species and changes in heights from 1982 data. These data can be used as a simple growth index although there are other factors beside height which indicate growth. Fringed sagebrush height was measured differently in 1982 (see methods section of this report) and a comparison with 1983 data was not meaningful. From this data it appears that black sagebrush had the largest increase in height. Negative height changes are possible from browsing and the mortality of large individuals which are no longer counted. Woods rose (Rosa woodsii) and mountain mahogany were the most susceptible to browsing. Although not statistically significant because of the high degree of variation, trends in plant height indicated greater growth on topsoil and subsoil plots and least growth on overburden and tailings-overburden plots.

Although there was a great deal of variation, trends in plant height indicated greater growth for fertilized black sagebrush, mountain mahogany and woods rose individuals than for nonfertilized individuals. However, fertilization had a negative impact on plant survival the first year following planting (see Study Plot Establishment and Results, Native Plants, Inc., December 1982). There appears to be a tradeoff in the benefit of fertilization.

Table 8. Heights and growth of container plants after two growing seasons. Values are in centimeters.

	Topsoil		Subsoil		Overburden		Tailings-Topsoil		Tailings-Subsoil		Tailings-Overburden	
	Ht.	Δ[1]	Ht.	Δ[1]	Ht.	Δ[1]	Ht.	Δ[1]	Ht.	Δ[1]	Ht.	Δ[1]
Artemisia frigida[2]	40.0	---	43.1	---	37.2	---	43.3	---	37.5	---	36.6	---
Artemisia nova	18.8	8.1	17.1	10.6	16.1	7.1	17.4	9.0	19.4	13.9	17.2	8.4
Cereocarpus montanus	7.3	3.0	8.5	3.3	7.3	1.0	7.7	2.6	6.4	-4.7	7.9	1.5
Juniperus scopulorum	16.9	3.4	13.0	3.3	13.4	1.9	14.8	3.0	14.2	1.9	15.8	2.0
Rosa woodsii	16.7	6.6	15.7	5.9	20.1	2.8	18.8	6.2	14.8	4.9	15.5	-0.5

[1] Δ = change in heights between 1982 and 1983

[2] Artemisia frigida heights were measured differently in 1982 and 1983 and are not comparable.

SUMMARY

After two growing season, perennial vegetation establishment from seed remains greatly affected by the growth medium. Topsoil is superior in vegetative establishment, particularly in perennial vegetation cover. The addition of tailings material to the other growth media generally provided little harm or benefit to the primary growth media. Topsoil added to tailings materials generally is more beneficial than subsoil (Mackentire formation) or typical overburden.

Shrub establishment from seed was more successful from broadcast seeding rather than being seeded with a rangeland drill, particularly one not equipped to handle trashy seed. Clogging of the drill resulted in poor seed distribution and establishment. Wintefat and fourwing saltbush had the highest density for shrubs that were established from seed. Most of the gasses and legumes that were seeded were effectively established.

Overall transplant establishment remains excellent with the exception of mountain mahogany which was rated as low-good. This species will be one of the more difficult to establish of those tested. Long-term factors influencing survival are still mingled with initial mortality from the burial from sediment so that differences in survival between soil types, water harvesting and fertilizer are not clear cut.

Nitrogen fertilization did not appear to provide a benefit to establishment from seed. Fertilization increased annual cover and decreased legume establishment. Slow-release fertilization did not have a significant affect on the survival of transplants by the second growing season. This fertilization appeared to have an adverse impact the first year following transplanting. Trends indicate that fertilization has increased the growth

of transplanted shrub species. From these results it appears that fertilization should be delayed until after the emergence or establishment of seeded species. It is recommended that fertilizer be applied early this spring to selected subplots so that enhancements in growth and composition of seeded species following establishment can be monitored.

These results reflect the second growing season. In arid regions, a significant portion of the mortality that will occur begins the first year following planting and continues until the third or fourth year at which time it begins to level off. Seeding mortality is less predictable, especially for forbs and shrubs, but generally several years are required before a fair assessment of survival can be made. Competition, particularly from weedy annuals, fluctuates greatly from year to year. Monitoring of these plots is recommended for one more year. At this time, all previous monitoring efforts can be analyzed and trends can be identified. In addition, costs of each treatment can be analyzed to determine the cost/benefit of each treatment and final adjustments to the reclamation plan can be made.

12-05-83

TOPSOIL COVER -1983-

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
LOWER TOPSOIL	GRASS	DRILL	N	N	1	78.0	8.0	2.0	12.0	0.0	0.0	0.2	7.3	0.2	4.3
LOWER TOPSOIL	GRASS	DRILL	N	N	2	71.4	8.3	4.0	16.3	0.0	0.0	0.0	6.1	0.6	9.6
LOWER TOPSOIL	GRASS	DRILL	N	N	3	70.9	7.5	2.8	18.8	0.0	0.0	0.1	5.8	1.2	11.7
UPPER TOPSOIL	GRASS	DRILL	N	N	4	72.9	8.3	3.3	15.5	0.0	0.0	0.1	6.7	1.7	7.0
UPPER TOPSOIL	GRASS	DRILL	N	N	5	67.4	6.3	3.3	23.0	0.0	0.0	0.5	11.2	0.3	11.0
UPPER TOPSOIL	GRASS	DRILL	N	N	6	65.9	4.8	1.8	27.5	0.0	0.0	0.1	8.2	0.7	18.5
----- T O T A L S FOR N -----						426.5	43.2	17.2	113.1	0.0	0.0	1.0	45.3	4.7	62.1
----- AVERAGE FOR N -----						71.1	7.2	2.9	18.9	0.0	0.0	0.2	7.6	0.8	10.4
----- STANDARD DEV. N -----						3.9	1.3	0.8	5.1	0.0	0.0	0.2	1.8	0.5	4.4
LOWER TOPSOIL	GRASS	DRILL	Y	N	1	74.6	10.8	1.3	13.3	0.0	0.0	0.0	7.1	0.5	5.7
LOWER TOPSOIL	GRASS	DRILL	Y	N	2	79.2	5.5	0.5	15.8	0.0	0.0	0.3	8.6	3.3	3.6
LOWER TOPSOIL	GRASS	DRILL	Y	N	3	65.0	9.0	4.0	22.0	0.0	0.0	0.3	8.3	1.9	11.5
UPPER TOPSOIL	GRASS	DRILL	Y	N	4	69.5	6.0	1.5	23.0	0.0	0.0	0.0	4.5	5.3	13.2
UPPER TOPSOIL	GRASS	DRILL	Y	N	5	67.2	4.3	4.5	24.0	0.0	0.0	0.0	10.0	0.8	13.2
UPPER TOPSOIL	GRASS	DRILL	Y	N	6	74.4	3.3	1.8	20.5	0.0	0.0	0.3	9.4	0.9	9.9
----- T O T A L S FOR Y -----						429.9	38.9	13.6	118.6	0.0	0.0	0.9	47.9	12.7	57.1
----- AVERAGE FOR Y -----						71.7	6.5	2.3	19.8	0.0	0.0	0.2	8.0	2.1	9.5
----- STANDARD DEV. Y -----						4.9	2.6	1.5	3.9	0.0	0.0	0.2	1.8	1.7	3.7
----- T O T A L S FOR DRILL -----						856.4	82.1	30.8	231.7	0.0	0.0	1.9	93.2	17.4	119.2
----- AVERAGE FOR DRILL -----						71.4	6.8	2.6	19.3	0.0	0.0	0.2	7.8	1.4	9.9
----- STANDARD DEV. DRILL -----						4.4	2.1	1.2	4.6	0.0	0.0	0.2	1.8	1.4	4.1
----- T O T A L S FOR GRASS -----						856.4	82.1	30.8	231.7	0.0	0.0	1.9	93.2	17.4	119.2
----- AVERAGE FOR GRASS -----						71.4	6.8	2.6	19.3	0.0	0.0	0.2	7.8	1.4	9.9
----- STANDARD DEV. GRASS -----						4.4	2.1	1.2	4.6	0.0	0.0	0.2	1.8	1.4	4.1
LOWER TOPSOIL	SHRUB	BROADCAST	N	N	1	77.4	5.0	1.3	16.3	0.0	3.3	0.0	5.1	5.3	2.6
LOWER TOPSOIL	SHRUB	BROADCAST	N	N	2	70.5	11.0	4.5	14.0	0.0	1.2	0.0	5.2	0.9	6.7
LOWER TOPSOIL	SHRUB	BROADCAST	N	N	3	74.7	10.8	1.5	13.0	0.0	0.4	0.0	2.3	4.0	6.3
UPPER TOPSOIL	SHRUB	BROADCAST	N	N	4	64.4	7.0	1.3	27.3	0.0	4.4	0.4	9.9	8.5	5.1
UPPER TOPSOIL	SHRUB	BROADCAST	N	N	5	72.5	10.0	1.5	16.0	0.0	5.4	0.0	3.2	6.6	0.8
UPPER TOPSOIL	SHRUB	BROADCAST	N	N	6	60.2	17.5	4.0	18.3	0.0	2.6	0.0	5.8	1.2	8.7

12-05-83

TOPSOIL COVER -1983-

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
----- T O T A L S FOR N -----						419.7	61.3	14.1	104.9	0.0	17.3	0.4	30.5	26.5	30.2
----- AVERAGE FOR N -----						70.0	10.2	2.4	17.5	0.0	2.9	0.1	5.1	4.4	5.0
----- STANDARD DEV. N -----						5.9	3.9	1.4	4.7	0.0	1.7	0.1	2.1	2.7	2.6
LOWER TOPSOIL	SHRUB	BROADCAST	Y	N	1	72.7	11.3	1.5	14.5	0.0	0.9	0.0	6.5	3.7	3.4
LOWER TOPSOIL	SHRUB	BROADCAST	Y	N	2	62.9	21.5	2.3	13.3	0.0	0.7	0.0	6.8	2.7	3.1
LOWER TOPSOIL	SHRUB	BROADCAST	Y	N	3	71.5	12.5	1.5	14.5	0.0	0.0	0.0	3.1	6.7	4.7
UPPER TOPSOIL	SHRUB	BROADCAST	Y	N	4	70.4	9.8	0.8	19.0	0.0	0.0	0.0	5.7	12.6	0.7
UPPER TOPSOIL	SHRUB	BROADCAST	Y	N	5	72.7	6.8	1.5	19.0	0.0	0.8	0.1	5.4	5.8	6.9
UPPER TOPSOIL	SHRUB	BROADCAST	Y	N	6	75.2	7.8	1.5	15.5	0.0	1.8	0.2	0.9	8.5	4.1
----- T O T A L S FOR Y -----						425.4	69.7	9.1	95.8	0.0	4.2	0.3	28.4	40.0	22.9
----- AVERAGE FOR Y -----						70.9	11.6	1.5	16.0	0.0	0.7	0.1	4.7	6.7	3.8
----- STANDARD DEV. Y -----						3.9	4.8	0.4	2.2	0.0	0.6	0.1	2.1	3.3	1.9
----- T O T A L S FOR BROADCAST -----						845.1	131.0	23.2	200.7	0.0	21.5	0.7	58.9	66.5	53.1
----- AVERAGE FOR BROADCAST -----						70.4	10.9	1.9	16.7	0.0	1.8	0.1	4.9	5.5	4.4
----- STANDARD DEV. BROADCAST -----						5.0	4.4	1.1	3.8	0.0	1.7	0.1	2.1	3.2	2.4
LOWER TOPSOIL	SHRUB	DRILL	N	N	1	75.0	7.5	1.0	16.5	0.0	0.0	0.0	7.4	3.5	5.6
LOWER TOPSOIL	SHRUB	DRILL	N	N	2	79.0	7.0	1.5	12.5	0.0	0.0	0.0	3.8	1.8	6.9
LOWER TOPSOIL	SHRUB	DRILL	N	N	3	72.4	7.3	2.0	18.3	0.0	0.0	0.3	5.9	9.1	3.0
UPPER TOPSOIL	SHRUB	DRILL	N	N	4	68.2	10.3	4.0	17.5	0.0	0.0	0.1	2.7	11.0	3.7
UPPER TOPSOIL	SHRUB	DRILL	N	N	5	77.4	6.3	0.8	15.5	0.0	0.0	0.3	2.2	10.0	3.0
UPPER TOPSOIL	SHRUB	DRILL	N	N	6	72.4	7.3	1.5	18.8	0.0	0.0	0.2	3.1	13.2	2.3
----- T O T A L S FOR N -----						444.4	45.7	10.8	99.1	0.0	0.0	0.9	25.1	48.6	24.5
----- AVERAGE FOR N -----						74.1	7.6	1.8	16.5	0.0	0.0	0.2	4.2	8.1	4.1
----- STANDARD DEV. N -----						3.6	1.3	1.1	2.1	0.0	0.0	0.1	1.9	4.1	1.6
LOWER TOPSOIL	SHRUB	DRILL	Y	N	1	76.4	8.8	1.5	13.3	0.0	0.0	0.0	6.5	5.5	1.3
LOWER TOPSOIL	SHRUB	DRILL	Y	N	2	78.4	8.3	1.3	12.0	0.0	0.0	0.1	5.0	5.4	1.5
LOWER TOPSOIL	SHRUB	DRILL	Y	N	3	74.6	7.3	0.8	17.3	0.0	0.0	0.0	1.4	11.6	4.3
UPPER TOPSOIL	SHRUB	DRILL	Y	N	4	67.2	8.0	4.3	20.5	0.0	0.8	0.1	3.1	10.8	5.7
UPPER TOPSOIL	SHRUB	DRILL	Y	N	5	69.2	6.0	1.5	23.3	0.0	0.0	1.2	3.0	12.5	6.6
UPPER TOPSOIL	SHRUB	DRILL	Y	N	6	64.4	9.8	1.0	24.8	0.0	0.9	0.4	5.0	13.2	5.3

12-05-83

TOPSOIL COVER -1983-

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
TOTALS FOR Y						430.2	48.2	10.4	111.2	0.0	1.7	1.8	24.0	59.0	24.7
AVERAGE FOR Y						71.7	8.0	1.7	18.5	0.0	0.3	0.3	4.0	9.8	4.1
STANDARD DEV. Y						5.1	1.2	1.2	4.8	0.0	0.4	0.4	1.7	3.2	2.0
TOTALS FOR DRILL						874.6	93.9	21.2	210.3	0.0	1.7	2.7	49.1	107.6	49.2
AVERAGE FOR DRILL						72.9	7.8	1.8	17.5	0.0	0.1	0.2	4.1	9.0	4.1
STANDARD DEV. DRILL						4.5	1.2	1.1	3.8	0.0	0.3	0.3	1.8	3.8	1.8
TOTALS FOR SHRUB						*19.7	224.9	44.4	411.0	0.0	23.2	3.4	108.0	174.1	102.3
AVERAGE FOR SHRUB						71.7	9.4	1.8	17.1	0.0	1.0	0.1	4.5	7.3	4.3
STANDARD DEV. SHRUB						4.9	3.6	1.1	3.8	0.0	1.5	0.3	2.0	3.9	2.1
GRAND TOTALS						*76.1	307.0	75.2	642.7	0.0	23.2	5.3	201.2	191.5	221.5
REPORT AVER.						71.6	8.5	2.1	17.9	0.0	0.6	0.1	5.6	5.3	6.2
-REPORT STANDARD DEVIATION-						4.8	3.4	1.2	4.2	0.0	1.3	0.2	2.5	4.3	4.0

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS															
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER TOPSOIL		SHRUB	BROADCAST	N	N		1													
SEEDED	3.5	13.5	0.0	3.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0		2.0		17.0		3.0	22.0
UNSEEDED														0.0	0.0	0.0	1.0	21.5	2.5	25.0
TOTAL														0.0	2.0	0.0	18.0	21.5	5.5	47.0
LOWER TOPSOIL		SHRUB	BROADCAST	N	N		2													
SEEDED	7.5	5.5	0.0	2.5	1.5	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0		2.5		13.0		4.0	19.5
UNSEEDED														0.0	0.0	0.0	3.5	6.5	5.0	15.0
TOTAL														0.0	2.5	0.0	16.5	6.5	9.0	34.5
LOWER TOPSOIL		SHRUB	BROADCAST	N	N		3													
SEEDED	1.0	3.0	0.0	3.0	0.5	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0		1.0		4.0		3.5	8.5
UNSEEDED														0.0	0.0	0.0	1.5	4.5	7.0	13.0
TOTAL														0.0	1.0	0.0	5.5	4.5	10.5	21.5
UPPER TOPSOIL		SHRUB	BROADCAST	N	N		4													
SEEDED	4.0	5.5	0.5	5.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0		1.0		9.5		5.5	16.0
UNSEEDED														0.0	0.0	0.5	2.0	14.0	2.0	18.5
TOTAL														0.0	1.0	0.5	11.5	14.0	7.5	34.5
UPPER TOPSOIL		SHRUB	BROADCAST	N	N		5													
SEEDED	11.5	2.5	0.0	9.5	0.0	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0		1.5		14.0		9.5	25.0
UNSEEDED														0.0	0.0	0.0	1.0	15.0	0.0	16.0
TOTAL														0.0	1.5	0.0	15.0	15.0	9.5	41.0
UPPER TOPSOIL		SHRUB	BROADCAST	N	N		6													
SEEDED	5.5	0.5	0.0	11.0	0.0	0.0	1.0	1.5	0.0	0.0	0.5	0.0	0.0		3.0		6.0		11.0	20.0
UNSEEDED														0.0	0.0	0.0	4.0	14.0	4.0	22.0
TOTAL														0.0	3.0	0.0	10.0	14.0	15.0	42.0
- - - - - T O T A L S FOR N - - - - -																				
SEEDED	33.0	30.5	0.5	34.0	2.0	0.0	4.5	5.5	0.0	0.0	1.0	0.0	0.0		11.0		63.5		36.5	111.0
UNSEEDED														0.0	0.0	0.5	13.0	75.5	20.5	109.5
TOTAL														0.0	11.0	0.5	76.5	75.5	57.0	220.5
- - - - - AVERAGE FOR N - - - - -																				
SEEDED	5.5	5.1	0.1	5.7	0.3	0.0	0.8	0.9	0.0	0.0	0.2	0.0	0.0		1.8		10.6		6.1	18.5
UNSEEDED														0.0	0.0	0.1	2.2	12.6	3.4	18.3
TOTAL														0.0	1.8	0.1	12.8	12.6	9.5	36.8
- - - - - STANDARD DEV. N - - - - -																				
SEEDED	3.3	4.1	0.2	3.4	0.6	0.0	0.4	0.7	0.0	0.0	0.2	0.0	0.0		0.7		4.5		3.1	5.2
UNSEEDED														0.0	0.0	0.2	1.2	5.7	2.2	4.1
TOTAL														0.0	0.7	0.2	4.3	5.7	2.9	8.1
LOWER TOPSOIL		SHRUB	BROADCAST	Y	N		1													
SEEDED	8.0	1.5	0.5	0.5	0.0	0.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0		2.0		9.5		1.0	12.5
UNSEEDED														0.0	0.0	0.0	7.0	14.5	1.5	23.0
TOTAL														0.0	2.0	0.0	16.5	14.5	2.5	35.5
LOWER TOPSOIL		SHRUB	BROADCAST	Y	N		2													
SEEDED	5.5	4.5	0.0	1.0	0.0	0.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0		2.0		10.0		1.0	13.0
UNSEEDED														0.0	0.0	0.0	4.5	8.5	4.0	17.0
TOTAL														0.0	2.0	0.0	14.5	8.5	5.0	30.0

TOPSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPHU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER TOPSOIL		SHRUB	BROADCAST	Y	N	3														
SEEDED	2.5	5.5	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		8.0		2.0	10.0
UNSEEDED														0.0	0.0	0.0	3.5	15.5	2.0	21.0
TOTAL														0.0	0.0	0.0	11.5	15.5	4.0	31.0
UPPER TOPSOIL		SHRUB	BROADCAST	Y	N	4														
SEEDED	3.5	7.0	1.5	2.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0		0.5		10.5		4.0	15.0
UNSEEDED														0.0	0.0	0.0	1.0	5.0	0.0	6.0
TOTAL														0.0	0.5	0.0	11.5	5.0	4.0	21.0
UPPER TOPSOIL		SHRUB	BROADCAST	Y	N	5														
SEEDED	11.5	0.0	0.5	9.5	0.0	0.0	0.5	1.5	0.0	0.5	0.0	0.0	0.0		2.5		11.5		10.0	24.0
UNSEEDED														0.0	0.0	1.5	0.5	7.5	0.5	10.0
TOTAL														0.0	2.5	1.5	12.0	7.5	10.5	34.0
UPPER TOPSOIL		SHRUB	BROADCAST	Y	N	6														
SEEDED	0.5	2.5	0.5	4.0	0.0	0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0		1.5		3.0		4.5	9.0
UNSEEDED														0.0	0.0	0.5	0.5	14.0	1.0	16.0
TOTAL														0.0	1.5	0.5	3.5	14.0	5.5	25.0
- - - - - T O T A L S FOR Y - - - - -																				
SEEDED	31.5	21.0	3.0	19.5	0.0	0.0	2.5	5.5	0.0	0.5	0.0	0.0	0.0		8.5		52.5		22.5	83.5
UNSEEDED														0.0	0.0	2.0	17.0	65.0	9.0	93.0
TOTAL														0.0	8.5	2.0	69.5	65.0	31.5	176.5
- - - - - AVERAGE FOR Y - - - - -																				
SEEDED	5.3	3.5	0.5	3.3	0.0	0.0	0.4	0.9	0.0	0.1	0.0	0.0	0.0		1.4		8.8		3.8	13.9
UNSEEDED														0.0	0.0	0.3	2.8	10.8	1.5	15.5
TOTAL														0.0	1.4	0.3	11.6	10.8	5.3	29.4
- - - - - STANDARD DEV. Y - - - - -																				
SEEDED	3.6	2.4	0.5	3.0	0.0	0.0	0.2	0.7	0.0	0.2	0.0	0.0	0.0		0.9		2.8		3.1	4.9
UNSEEDED														0.0	0.0	0.6	2.4	4.0	1.3	5.9
TOTAL														0.0	0.9	0.6	4.0	4.0	2.5	5.0
- - - - - T O T A L S FOR BROADCAST - - - - -																				
SEEDED	64.5	51.5	3.5	53.5	2.0	0.0	7.0	11.0	0.0	0.5	1.0	0.0	0.0		19.5		116.0		59.0	194.5
UNSEEDED														0.0	0.0	2.5	30.0	140.5	29.5	202.5
TOTAL														0.0	19.5	2.5	146.0	140.5	88.5	397.0
- - - - - AVERAGE FOR BROADCAST - - - - -																				
SEEDED	5.4	4.3	0.3	4.5	0.2	0.0	0.6	0.9	0.0	0.0	0.1	0.0	0.0		1.6		9.7		4.9	16.2
UNSEEDED														0.0	0.0	0.2	2.5	11.7	2.5	16.9
TOTAL														0.0	1.6	0.2	12.2	11.7	7.4	33.1
- - - - - STANDARD DEV. BROADCAST - - - - -																				
SEEDED	3.5	3.5	0.4	3.4	0.4	0.0	0.3	0.7	0.0	0.1	0.2	0.0	0.0		0.8		3.9		3.3	5.6
UNSEEDED														0.0	0.0	0.4	1.9	5.0	2.1	5.3
TOTAL														0.0	0.8	0.4	4.2	5.0	3.5	7.7

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS															
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER TOPSOIL		SHRUB	DRILL		N	N	1													
SEEDED	3.0	1.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		4.0		1.5	5.5
UNSEEDED														0.0	0.0	0.0	9.5	9.0	5.0	23.5
TOTAL														0.0	0.0	0.0	13.5	9.0	6.5	29.0
LOWER TOPSOIL		SHRUB	DRILL		N	N	2													
SEEDED	2.5	1.0	0.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.5		5.0	8.5
UNSEEDED														0.0	0.0	0.0	4.5	5.0	3.5	13.0
TOTAL														0.0	0.0	0.0	8.0	5.0	8.5	21.5
LOWER TOPSOIL		SHRUB	DRILL		N	N	3													
SEEDED	3.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		4.5		0.0	4.5
UNSEEDED														0.0	0.0	1.0	8.0	5.0	3.0	17.0
TOTAL														0.0	0.0	1.0	12.5	5.0	3.0	21.5
UPPER TOPSOIL		SHRUB	DRILL		N	N	4													
SEEDED	0.5	2.5	0.0	4.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.0		4.5	7.5
UNSEEDED														0.0	0.0	0.5	1.0	8.0	0.5	10.0
TOTAL														0.0	0.0	0.5	4.0	8.0	5.0	17.5
UPPER TOPSOIL		SHRUB	DRILL		N	N	5													
SEEDED	0.0	2.5	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.5		2.0	4.5
UNSEEDED														0.0	0.0	0.5	2.5	8.5	1.5	13.0
TOTAL														0.0	0.0	0.5	5.0	8.5	3.5	17.5
UPPER TOPSOIL		SHRUB	DRILL		N	N	6													
SEEDED	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.5		0.0	0.5
UNSEEDED														0.0	0.0	0.5	2.5	20.5	1.0	24.5
TOTAL														0.0	0.0	0.5	3.0	20.5	1.0	25.0
----- T O T A L S FOR N -----																				
SEEDED	9.5	8.5	1.0	11.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		18.0		13.0	31.0
UNSEEDED														0.0	0.0	2.5	28.0	56.0	14.5	101.0
TOTAL														0.0	0.0	2.5	46.0	56.0	27.5	132.0
----- AVERAGE FOR N -----																				
SEEDED	1.6	1.4	0.2	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.0		2.2	5.2
UNSEEDED														0.0	0.0	0.4	4.7	9.3	2.4	16.3
TOTAL														0.0	0.0	0.4	7.7	9.3	4.6	22.0
----- STANDARD DEV. N -----																				
SEEDED	1.3	0.9	0.2	1.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.3		2.0	2.6
UNSEEDED														0.0	0.0	0.3	3.1	5.2	1.6	5.5
TOTAL														0.0	0.0	0.3	4.1	5.2	2.4	4.1
LOWER TOPSOIL		SHRUB	DRILL		Y	N	1													
SEEDED	2.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.0		1.0	3.0
UNSEEDED														0.0	0.0	0.0	10.5	7.0	1.0	18.5
TOTAL														0.0	0.0	0.0	12.5	7.0	2.0	21.5
LOWER TOPSOIL		SHRUB	DRILL		Y	N	2													
SEEDED	0.5	0.5	0.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.0		2.5	3.5
UNSEEDED														0.0	0.0	1.0	6.5	6.0	1.0	14.5
TOTAL														0.0	0.0	1.0	7.5	6.0	3.5	18.0

TOPSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER TOPSOIL		SHRUB	DRILL		Y	N	3													
SEEDED	0.5	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.0		0.5	2.5
UNSEEDED														0.0	0.0	0.0	2.0	14.5	1.5	18.0
TOTAL														0.0	0.0	0.0	4.0	14.5	2.0	20.5
UPPER TOPSOIL		SHRUB	DRILL		Y	N	4													
SEEDED	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.5		1.0		0.0	1.5
UNSEEDED														0.0	0.0	1.0	1.0	4.5	2.5	9.0
TOTAL														0.0	0.5	1.0	2.0	4.5	2.5	10.5
UPPER TOPSOIL		SHRUB	DRILL		Y	N	5													
SEEDED	0.5	1.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.5		0.5	2.0
UNSEEDED														0.0	0.0	1.5	1.5	7.5	1.5	12.0
TOTAL														0.0	0.0	1.5	3.0	7.5	2.0	14.0
UPPER TOPSOIL		SHRUB	DRILL		Y	N	6													
SEEDED	0.5	1.5	0.0	3.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.5		2.0		3.0	5.5
UNSEEDED														0.0	0.0	1.0	2.5	42.0	1.0	46.5
TOTAL														0.0	0.5	1.0	4.5	42.0	4.0	52.0
----- T O T A L S FOR Y -----																				
SEEDED	4.0	5.5	0.5	5.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.0		9.5		7.5	18.0
UNSEEDED														0.0	0.0	4.5	24.0	81.5	8.5	118.5
TOTAL														0.0	1.0	4.5	33.5	81.5	16.0	136.5
----- AVERAGE FOR Y -----																				
SEEDED	0.7	0.9	0.1	0.8	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.2		1.6		1.3	3.0
UNSEEDED														0.0	0.0	0.8	4.0	13.6	1.4	19.8
TOTAL														0.0	0.2	0.8	5.6	13.6	2.7	22.8
----- STANDARD DEV. Y -----																				
SEEDED	0.6	0.5	0.2	1.0	0.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.2		0.4		1.1	1.3
UNSEEDED														0.0	0.0	0.6	3.4	13.1	0.5	12.4
TOTAL														0.0	0.2	0.6	3.5	13.1	0.8	13.6
----- T O T A L S FOR DRILL -----																				
SEEDED	13.5	14.0	1.5	16.5	2.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.0		27.5		20.5	49.0
UNSEEDED														0.0	0.0	7.0	52.0	137.5	23.0	219.5
TOTAL														0.0	1.0	7.0	79.5	137.5	43.5	268.5
----- AVERAGE FOR DRILL -----																				
SEEDED	1.1	1.2	0.1	1.4	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.1		2.3		1.7	4.1
UNSEEDED														0.0	0.0	0.6	4.3	11.5	1.9	18.3
TOTAL														0.0	0.1	0.6	6.6	11.5	3.6	22.4
----- STANDARD DEV. DRILL -----																				
SEEDED	1.1	0.8	0.2	1.5	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.2		1.2		1.7	2.3
UNSEEDED														0.0	0.0	0.5	3.3	10.2	1.3	9.7
TOTAL														0.0	0.2	0.5	4.0	10.2	2.1	10.1

TOPSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	AGINE	SEED MIX ORHY	SEED METH ASCI	LILE	FERT SPNU	WATER HARVEST ARTR	ATCA	REPS CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
GRAND TOTALS																				
SEEDED	78.0	65.5	5.0	70.0	4.5	0.0	7.0	12.0	0.0	0.5	1.0	0.0	0.0		20.5		143.5		79.5	243.5
UNSEEDED														0.0	0.0	9.5	82.0	278.0	52.5	422.0
TOTAL														0.0	20.5	9.5	225.5	278.0	132.0	665.5
REPORT AVER.																				
SEEDED	3.3	2.7	0.2	2.9	0.2	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0		0.9		6.0		3.3	10.1
UNSEEDED														0.0	0.0	0.4	3.4	11.6	2.2	17.6
TOTAL														0.0	0.9	0.4	9.4	11.6	5.5	27.7
REPORT STANDARD DEVIATION																				
SEEDED	3.4	3.0	0.4	3.1	0.4	0.0	0.4	0.6	0.0	0.1	0.1	0.0	0.0		1.0		4.7		3.1	7.4
UNSEEDED														0.0	0.0	0.5	2.8	8.0	1.7	7.8
TOTAL														0.0	1.0	0.5	4.9	8.0	3.4	10.4

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER TOPSOIL	GRASS	DRILL	N	N	1																	
	SEEDED					2.5	5.5	1.0	0.5	1.5	0.0	0.0	10.5	5.0	0.0				11.0		15.5	26.5
	UNSEEDED															0.0	0.0	0.5	4.5	2.5	0.0	7.5
	TOTAL															0.0	0.0	0.5	15.5	2.5	15.5	34.0
LOWER TOPSOIL	GRASS	DRILL	N	N	2																	
	SEEDED					4.0	6.0	3.0	2.5	2.0	0.0	0.5	9.0	8.5	0.0				18.0		17.5	35.5
	UNSEEDED															0.0	0.0	0.0	0.5	1.0	0.0	1.5
	TOTAL															0.0	0.0	0.0	18.5	1.0	17.5	37.0
LOWER TOPSOIL	GRASS	DRILL	N	N	3																	
	SEEDED					4.5	5.5	0.5	4.0	0.5	0.0	0.0	9.0	6.0	0.0				15.0		15.0	30.0
	UNSEEDED															0.0	0.0	0.5	3.5	2.0	0.0	6.0
	TOTAL															0.0	0.0	0.5	18.5	2.0	15.0	36.0
UPPER TOPSOIL	GRASS	DRILL	N	N	4																	
	SEEDED					1.5	5.0	0.0	1.0	0.0	0.0	0.5	3.0	3.5	0.0				8.0		6.5	14.5
	UNSEEDED															0.0	0.0	0.0	1.0	5.0	0.0	6.0
	TOTAL															0.0	0.0	0.0	9.0	5.0	6.5	20.5
UPPER TOPSOIL	GRASS	DRILL	N	N	5																	
	SEEDED					1.0	6.0	3.0	1.5	1.0	0.0	0.0	5.5	2.5	0.0				12.5		8.0	20.5
	UNSEEDED															0.0	0.0	1.0	4.5	4.5	0.0	10.0
	TOTAL															0.0	0.0	1.0	17.0	4.5	8.0	30.5
UPPER TOPSOIL	GRASS	DRILL	N	N	6																	
	SEEDED					3.5	4.0	2.5	0.5	0.1	0.0	0.5	6.5	6.5	0.0				11.1		13.0	24.1
	UNSEEDED															0.0	0.0	0.5	1.5	4.0	0.5	6.5
	TOTAL															0.0	0.0	0.5	12.6	4.0	13.5	30.6
----- TOTALS FOR N -----																						
	SEEDED					17.0	32.0	10.0	10.0	5.1	0.0	1.5	43.5	32.0	0.0				75.6		75.5	151.1
	UNSEEDED															0.0	0.0	2.5	15.5	19.0	0.5	37.5
	TOTAL															0.0	0.0	2.5	91.1	19.0	76.0	188.6
----- AVERAGE FOR N -----																						
	SEEDED					2.8	5.3	1.7	1.7	0.9	0.0	0.3	7.3	5.3	0.0				12.6		12.6	25.2
	UNSEEDED															0.0	0.0	0.4	2.6	3.2	0.1	6.3
	TOTAL															0.0	0.0	0.4	15.2	3.2	12.7	31.4
----- STANDARD DEV. N -----																						
	SEEDED					1.3	0.7	1.2	1.2	0.7	0.0	0.3	2.5	2.0	0.0				3.2		4.0	6.7
	UNSEEDED															0.0	0.0	0.3	1.6	1.4	0.2	2.5
	TOTAL															0.0	0.0	0.3	3.4	1.4	4.0	5.5
LOWER TOPSOIL	GRASS	DRILL	Y	N	1																	
	SEEDED					3.5	6.0	2.5	2.5	1.0	0.0	0.5	4.5	4.0	0.0				16.0		8.5	24.5
	UNSEEDED															0.0	0.0	0.0	2.5	3.5	1.5	7.5
	TOTAL															0.0	0.0	0.0	18.5	3.5	10.0	32.0
LOWER TOPSOIL	GRASS	DRILL	Y	N	2																	
	SEEDED					4.5	8.0	1.0	2.5	0.0	0.0	1.5	3.5	1.0	0.0				17.5		4.5	22.0
	UNSEEDED															0.0	0.0	0.5	3.0	4.5	0.0	8.0
	TOTAL															0.0	0.0	0.5	20.5	4.5	4.5	30.0

TOPSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS						JUV.			ANN.	PER.	ANN.	PER.	
		AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEDF	GRASS	TREE	SHRUB	GRASS	GRASS	FORB	FORB	TOTAL
LOWER TOPSOIL	GRASS	DRILL		Y	N	3												
	SEEDED	5.0	7.0	2.0	1.0	4.0	0.0	0.5	12.5	4.0	0.0				19.5		16.5	36.0
	UNSEEDED											0.0	0.0	1.5	0.0	6.5	0.0	8.0
	TOTAL											0.0	0.0	1.5	19.5	6.5	16.5	44.0
UPPER TOPSOIL	GRASS	DRILL		Y	N	4												
	SEEDED	1.5	4.0	2.0	1.5	1.0	0.0	0.0	4.5	4.5	0.0				10.0		9.0	19.0
	UNSEEDED											0.0	0.0	0.0	3.5	8.5	0.0	12.0
	TOTAL											0.0	0.0	0.0	13.5	8.5	9.0	31.0
UPPER TOPSOIL	GRASS	DRILL		Y	N	5												
	SEEDED	1.5	8.5	3.0	1.0	0.5	0.0	0.0	4.5	4.0	0.0				14.5		8.5	23.0
	UNSEEDED											0.0	0.0	0.0	3.0	5.0	0.0	8.0
	TOTAL											0.0	0.0	0.0	17.5	5.0	8.5	31.0
UPPER TOPSOIL	GRASS	DRILL		Y	N	6												
	SEEDED	2.5	9.0	2.0	0.5	0.0	0.0	0.5	6.0	7.0	0.0				14.5		13.0	27.5
	UNSEEDED											0.0	0.0	1.5	2.0	7.5	0.0	11.0
	TOTAL											0.0	0.0	1.5	16.5	7.5	13.0	38.5
----- T O T A L S FOR Y -----																		
	SEEDED	18.5	42.5	12.5	9.0	6.5	0.0	3.0	35.5	24.5	0.0				92.0		60.0	152.0
	UNSEEDED											0.0	0.0	3.5	14.0	35.5	1.5	54.5
	TOTAL											0.0	0.0	3.5	106.0	35.5	61.5	206.5
----- AVERAGE FOR Y -----																		
	SEEDED	3.1	7.1	2.1	1.5	1.1	0.0	0.5	5.9	4.1	0.0				15.3		10.0	25.3
	UNSEEDED											0.0	0.0	0.6	2.3	5.9	0.3	9.1
	TOTAL											0.0	0.0	0.6	17.7	5.9	10.3	34.4
----- STANDARD DEV. Y -----																		
	SEEDED	1.4	1.7	0.6	0.8	1.4	0.0	0.5	3.0	1.7	0.0				3.0		3.8	5.4
	UNSEEDED											0.0	0.0	0.7	1.1	1.7	0.6	1.7
	TOTAL											0.0	0.0	0.7	2.3	1.7	3.8	5.1
----- G R A N D T O T A L S -----																		
	SEEDED	35.5	74.5	22.5	19.0	11.6	0.0	4.5	79.0	56.5	0.0				167.6		135.5	303.1
	UNSEEDED											0.0	0.0	6.0	29.5	54.5	2.0	92.0
	TOTAL											0.0	0.0	6.0	197.1	54.5	137.5	395.1
----- R E P O R T A V E R. -----																		
	SEEDED	3.0	6.2	1.9	1.6	1.0	0.0	0.4	6.6	4.7	0.0				14.0		11.3	25.3
	UNSEEDED											0.0	0.0	0.5	2.5	4.5	0.2	7.7
	TOTAL											0.0	0.0	0.5	16.4	4.5	11.5	32.9
----- REPORT STANDARD DEVIATION -----																		
	SEEDED	1.3	1.6	1.0	1.0	1.1	0.0	0.4	2.9	2.0	0.0				3.4		4.1	6.1
	UNSEEDED											0.0	0.0	0.5	1.4	2.1	0.4	2.6
	TOTAL											0.0	0.0	0.5	3.2	2.1	4.1	5.5

12-08-83

TOPSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ATLOSS VALUE	ARNO ATLOSS VALUE	CEMO ATLOSS VALUE	JUSC ATLOSS VALUE	ROMO ATLOSS VALUE	TOTAL ATLOSS VALUE
LOWER TOPSOIL	BASIN NO F 1	3 3 100.0	2 3 66.7	2 3 66.7	3 3 100.0	1 3 33.3	11 15 73.3
	HEIGHT (CM)	35.0	17.0	8.0	15.7	17.0	
LOWER TOPSOIL	BASIN NO F 2	3 3 100.0	2 3 66.7	1 3 33.3	3 3 100.0	0 3 0.0	9 15 60.0
	HEIGHT (CM)	34.3	13.5	7.0	14.0	0.0	
LOWER TOPSOIL	BASIN NO F 3	3 3 100.0	3 3 100.0	3 3 100.0	3 3 100.0	3 3 100.0	15 15 100.0
	HEIGHT (CM)	36.7	16.7	7.0	19.7	16.3	
UPPER TOPSOIL	BASIN NO F 4	3 3 100.0	3 3 100.0	2 3 66.7	3 3 100.0	3 3 100.0	14 15 93.3
	HEIGHT (CM)	41.3	30.7	6.5	30.7	19.3	
UPPER TOPSOIL	BASIN NO F 5	2 3 66.7	3 3 100.0	1 3 33.3	3 3 100.0	3 3 100.0	12 15 80.0
	HEIGHT (CM)	57.0	22.0	4.0	26.0	24.7	
UPPER TOPSOIL	BASIN NO F 6	3 3 100.0	3 3 100.0	0 3 0.0	3 3 100.0	3 3 100.0	12 15 80.0
	HEIGHT (CM)	42.0	26.0	0.0	14.3	18.0	
----- TOTALS FOR NO F -----		17 18 566.7	16 18 533.4	9 18 300.0	18 18 600.0	13 18 433.3	73 90 486.6
	HEIGHT (CM)	246.3	125.9	32.5	120.4	95.3	
----- AVERAGE FOR NO F -----		3 3 94.5	3 3 88.9	2 3 50.0	3 3 100.0	2 3 72.2	12 15 81.1
	HEIGHT (CM)	41.0	21.0	5.4	20.1	15.9	
----- STANDARD DEV. NO F -----		0 0 12.4	0 0 15.7	1 0 31.9	0 0 0.0	1 0 40.5	2 0 13.0
	HEIGHT (CM)	7.7	5.9	2.7	6.3	7.6	
LOWER TOPSOIL	BASIN FERT 1	3 3 100.0	3 3 100.0	0 3 0.0	3 3 100.0	3 3 100.0	12 15 80.0
	HEIGHT (CM)	39.3	16.7	0.0	9.0	16.3	
LOWER TOPSOIL	BASIN FERT 2	3 3 100.0	3 3 100.0	0 3 0.0	3 3 100.0	2 3 66.7	11 15 73.3
	HEIGHT (CM)	28.3	19.0	0.0	15.7	16.5	
LOWER TOPSOIL	BASIN FERT 3	3 3 100.0	3 3 100.0	1 3 33.3	3 3 100.0	1 3 33.3	11 15 73.3
	HEIGHT (CM)	38.3	13.3	7.0	11.3	22.0	
UPPER TOPSOIL	BASIN FERT 4	3 3 100.0	1 3 33.3	0 3 0.0	2 3 66.7	3 3 100.0	9 15 60.0
	HEIGHT (CM)	42.7	28.0	0.0	22.0	22.7	
UPPER TOPSOIL	BASIN FERT 5	2 3 66.7	3 3 100.0	1 3 33.3	3 3 100.0	3 3 100.0	12 15 80.0
	HEIGHT (CM)	43.5	18.0	10.0	14.7	22.3	
UPPER TOPSOIL	BASIN FERT 6	2 3 66.7	3 3 100.0	0 3 0.0	3 3 100.0	2 3 66.7	10 15 66.7
	HEIGHT (CM)	46.0	11.3	0.0	15.3	13.0	
----- TOTALS FOR FERT -----		16 18 533.4	16 18 533.3	2 18 66.6	17 18 566.7	14 18 466.7	65 90 433.3
	HEIGHT (CM)	238.1	106.3	17.0	88.0	112.8	
----- AVERAGE FOR FERT -----		3 3 88.9	3 3 88.9	0 3 11.1	3 3 94.5	2 3 77.8	11 15 72.2
	HEIGHT (CM)	39.7	17.7	2.8	14.7	18.8	
----- STANDARD DEV. FERT -----		0 0 15.7	1 0 24.9	0 0 15.7	0 0 12.4	1 0 24.9	1 0 7.1
	HEIGHT (CM)	5.7	5.3	4.1	4.1	3.7	

TOPSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST		ARFR A L I V E	ARFR T O A L V	ARFR % S U R	ARNO A L I V E	ARNO T O A L V	ARNO % S U R	CEMO A L I V E	CEMO T O A L V	CEMO % S U R	JUSC A L I V E	JUSC T O A L V	JUSC % S U R	ROWO A L I V E	ROWO T O A L V	ROWO % S U R	TOTAL A L I V E	TOTAL T O A L V	TOTAL % S U R
- - - - - T O T A L S FOR BASIN - - - - -																				
			33	36	*00.1	32	36	*66.7	11	36	366.6	35	36	*66.7	27	36	900.0	138	180	919.9
		HEIGHT (CM)	484.4			232.2			49.5			208.4			208.1					
- - - - - AVERAGE FOR BASIN - - - - -																				
			3	3	91.7	3	3	88.9	1	3	30.5	3	3	97.2	2	3	75.0	12	15	76.7
		HEIGHT (CM)	40.4			19.4			4.1			17.4			17.3					
- - - - - STANDARD DEV. BASIN - - - - -																				
			0	0	14.4	1	0	20.8	1	0	31.8	0	0	9.2	1	0	33.7	2	0	11.4
		HEIGHT (CM)	6.8			5.9			3.7			5.9			6.2					
LOWER TOPSOIL	FLAT	NO F 1	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	0	3	0.0	10	15	66.7
		HEIGHT (CM)	34.7			10.5			6.5			11.7			0.0					
LOWER TOPSOIL	FLAT	NO F 2	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	2	3	66.7	12	15	80.0
		HEIGHT (CM)	33.7			11.0			3.0			14.0			13.0					
LOWER TOPSOIL	FLAT	NO F 3	3	3	100.0	3	3	100.0	4	4	100.0	3	3	100.0	1	2	50.0	14	15	93.3
		HEIGHT (CM)	38.7			19.0			5.5			18.0			17.0					
UPPER TOPSOIL	FLAT	NO F 4	2	2	100.0	3	4	75.0	2	3	66.7	3	3	100.0	3	3	100.0	13	15	86.7
		HEIGHT (CM)	45.0			24.3			12.5			17.3			15.3					
UPPER TOPSOIL	FLAT	NO F 5	2	2	100.0	3	4	75.0	3	3	100.0	3	3	100.0	3	3	100.0	14	15	93.3
		HEIGHT (CM)	40.5			25.7			6.3			21.7			13.7					
UPPER TOPSOIL	FLAT	NO F 6	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	2	3	66.7	14	15	93.3
		HEIGHT (CM)	50.0			18.3			8.0			24.0			17.0					
- - - - - T O T A L S FOR NO F - - - - -																				
			16	16	600.0	17	20	516.7	15	19	466.7	18	18	600.0	11	17	383.4	77	90	513.3
		HEIGHT (CM)	242.6			108.8			41.8			106.7			76.0					
- - - - - AVERAGE FOR NO F - - - - -																				
			3	3	100.0	3	3	86.1	3	3	77.8	3	3	100.0	2	3	63.9	13	15	85.6
		HEIGHT (CM)	40.4			18.1			7.0			17.8			12.7					
- - - - - STANDARD DEV. NO F - - - - -																				
			0	0	0.0	0	0	14.2	1	0	24.9	0	0	0.0	1	0	33.9	1	0	9.7
		HEIGHT (CM)	5.7			5.8			2.9			4.2			5.9					
LOWER TOPSOIL	FLAT	FERT 1	3	3	100.0	2	3	66.7	0	2	0.0	2	3	66.7	3	4	75.0	10	15	66.7
		HEIGHT (CM)	32.7			17.5			0.0			14.5			13.0					
LOWER TOPSOIL	FLAT	FERT 2	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	2	3	66.7	12	15	80.0
		HEIGHT (CM)	36.0			10.7			5.0			14.0			17.0					
LOWER TOPSOIL	FLAT	FERT 3	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	13	15	86.7
		HEIGHT (CM)	35.0			13.3			10.0			12.3			20.0					
UPPER TOPSOIL	FLAT	FERT 4	3	3	100.0	2	3	66.7	1	3	33.3	3	3	100.0	2	3	66.7	11	15	73.3
		HEIGHT (CM)	38.7			29.0			8.0			19.3			22.5					
UPPER TOPSOIL	FLAT	FERT 5	3	3	100.0	3	3	100.0	0	3	0.0	3	3	100.0	3	3	100.0	12	15	80.0
		HEIGHT (CM)	48.3			19.0			0.0			14.7			19.3					
UPPER TOPSOIL	FLAT	FERT 6	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	1	3	33.3	11	15	73.3
		HEIGHT (CM)	42.3			20.7			9.0			15.0			24.0					

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TAR	ARFR %SURV	ARNO ALIVE	ARNO TAR	ARNO %SURV	CEMO ALIVE	CEMO TAR	CEMO %SURV	JUSC ALIVE	JUSC TAR	JUSC %SURV	ROMO ALIVE	ROMO TAR	ROMO %SURV	TOTAL ALIVE	TOTAL TAR	TOTAL %SURV
------TOTALS FOR FERT------		18	18	600.0	16	18	533.4	4	17	133.2	17	18	566.7	14	19	441.7	69	90	460.0
	HEIGHT (CM)	233.0			110.2			32.0			89.8			115.8					
------AVERAGE FOR FERT------		3	3	100.0	3	3	88.9	1	3	22.2	3	3	94.5	2	3	73.6	12	15	76.7
	HEIGHT (CM)	38.8			18.4			5.3			15.0			19.3					
------STANDARD DEV. FERT------		0	0	0.0	0	0	15.7	0	0	15.7	0	0	12.4	1	0	22.8	1	0	6.4
	HEIGHT (CM)	5.2			5.8			4.1			2.1			3.6					
------TOTALS FOR FLAT------		34	34	*00.0	33	38	*50.1	19	36	599.9	35	36	*66.7	25	36	825.1	146	180	973.3
	HEIGHT (CM)	475.6			219.0			73.8			196.5			191.8					
------AVERAGE FOR FLAT------		3	3	100.0	3	3	87.5	2	3	50.0	3	3	97.2	2	3	68.8	12	15	81.1
	HEIGHT (CM)	39.6			18.3			6.2			16.4			16.0					
------STANDARD DEV. FLAT------		0	0	0.0	0	0	15.0	1	0	34.7	0	0	9.2	1	0	29.3	1	0	9.4
	HEIGHT (CM)	5.5			5.8			3.6			3.6			5.9					
------GRAND TOTALS------		67	70	*00.1	65	74	*16.8	30	72	966.5	70	72	*33.4	52	72	*25.1	284	360	*93.2
	HEIGHT (CM)	960.0			451.2			123.3			404.9			399.9					
------REPORT AVER.------		3	3	95.8	3	3	88.2	1	3	40.3	3	3	97.2	2	3	71.9	12	15	78.9
	HEIGHT (CM)	40.0			18.8			5.1			16.9			16.7					
------REPORT STANDARD DEVIATION------		0	0	11.0	1	0	18.1	1	0	34.7	0	0	9.2	1	0	31.7	2	0	10.7
	HEIGHT (CM)	6.2			5.9			3.8			4.9			6.1					

2-05-83

SUBSOIL COVER -1983-

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
LOWER SUBSOIL	GRASS	DRILL	N	N	1	79.7	4.5	2.5	13.3	0.0	0.0	0.0	3.7	6.3	3.3
LOWER SUBSOIL	GRASS	DRILL	N	N	2	75.7	6.8	1.0	16.5	0.0	0.0	0.1	6.1	9.5	0.8
LOWER SUBSOIL	GRASS	DRILL	N	N	3	79.7	5.0	0.8	14.5	0.0	0.0	0.1	4.5	2.3	7.6
UPPER SUBSOIL	GRASS	DRILL	N	N	4	71.6	2.8	0.3	25.3	0.0	0.0	0.0	3.4	13.6	8.3
UPPER SUBSOIL	GRASS	DRILL	N	N	5	77.7	3.3	0.0	19.0	0.0	0.0	0.0	5.0	13.2	0.8
UPPER SUBSOIL	GRASS	DRILL	N	N	6	90.1	3.8	0.8	5.3	0.0	0.0	0.1	1.6	2.3	1.3
----- TOTALS FOR N -----						474.5	26.2	5.4	93.9	0.0	0.0	0.3	24.3	47.2	22.1
----- AVERAGE FOR N -----						79.1	4.4	0.9	15.7	0.0	0.0	0.1	4.1	7.9	3.7
---- STANDARD DEV. N ----						5.6	1.3	0.8	6.0	0.0	0.0	0.1	1.4	4.6	3.1
LOWER SUBSOIL	GRASS	DRILL	Y	N	1	72.2	4.5	0.8	22.5	0.0	0.0	0.4	3.0	15.9	3.2
LOWER SUBSOIL	GRASS	DRILL	Y	N	2	67.5	4.0	1.0	27.5	0.0	0.0	0.0	5.5	19.2	2.8
LOWER SUBSOIL	GRASS	DRILL	Y	N	3	68.9	5.3	0.8	25.0	0.0	0.0	0.6	7.0	14.3	3.1
UPPER SUBSOIL	GRASS	DRILL	Y	N	4	58.7	1.5	0.3	39.5	0.0	0.0	0.2	1.0	23.2	15.1
UPPER SUBSOIL	GRASS	DRILL	Y	N	5	69.7	1.5	0.5	28.3	0.0	0.0	0.0	3.4	14.6	10.3
UPPER SUBSOIL	GRASS	DRILL	Y	N	6	73.1	2.8	0.3	23.8	0.0	0.0	0.3	2.4	13.4	7.7
----- TOTALS FOR Y -----						410.1	19.6	3.7	166.6	0.0	0.0	1.5	22.3	100.6	42.2
----- AVERAGE FOR Y -----						68.4	3.3	0.6	27.8	0.0	0.0	0.3	3.7	16.8	7.0
----- STANDARD DEV. Y -----						4.7	1.5	0.3	5.6	0.0	0.0	0.2	2.0	3.4	4.6
----- TOTALS FOR DRILL -----						884.6	45.8	9.1	260.5	0.0	0.0	1.8	46.6	147.8	64.3
----- AVERAGE FOR DRILL -----						73.7	3.8	0.8	21.7	0.0	0.0	0.2	3.9	12.3	5.4
----- STANDARD DEV. DRILL -----						7.5	1.5	0.6	8.4	0.0	0.0	0.2	1.7	6.0	4.3
----- TOTALS FOR GRASS -----						884.6	45.8	9.1	260.5	0.0	0.0	1.8	46.6	147.8	64.3
----- AVERAGE FOR GRASS -----						73.7	3.8	0.8	21.7	0.0	0.0	0.2	3.9	12.3	5.4
----- STANDARD DEV. GRASS -----						7.5	1.5	0.6	8.4	0.0	0.0	0.2	1.7	6.0	4.3
LOWER SUBSOIL	SHRUB	BROADCAST	N	N	1	72.0	3.0	0.0	25.0	0.0	0.0	0.0	0.6	24.3	0.1
LOWER SUBSOIL	SHRUB	BROADCAST	N	N	2	73.7	4.0	1.0	21.3	0.0	0.0	0.0	1.1	19.5	0.7
LOWER SUBSOIL	SHRUB	BROADCAST	N	N	3	89.9	3.8	0.8	5.5	0.0	0.4	0.0	0.8	3.2	1.1
UPPER SUBSOIL	SHRUB	BROADCAST	N	N	4	57.6	2.8	1.3	38.3	0.0	0.0	0.0	1.1	37.2	0.0
UPPER SUBSOIL	SHRUB	BROADCAST	N	N	5	75.4	6.3	0.8	17.5	0.0	0.0	0.2	1.2	16.1	0.0
UPPER SUBSOIL	SHRUB	BROADCAST	N	N	6	78.4	7.8	0.3	13.5	0.0	2.0	0.1	1.8	9.6	0.0

12-05-83

SUBSOIL COVER -1983-

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
------TOTALS FOR N															
						447.0	27.7	4.2	121.1	0.0	2.4	0.3	6.6	109.9	1.9
------ AVERAGE FOR N															
						74.5	4.6	0.7	20.2	0.0	0.4	0.1	1.1	18.3	0.3
------ STANDARD DEV. N															
						9.5	1.8	0.4	10.2	0.0	0.7	0.1	0.4	10.8	0.4
LOWER SUBSOIL	SHRUB	BROADCAST	Y	N	1	75.0	5.5	0.5	19.0	0.0	0.0	0.0	0.5	12.6	5.9
LOWER SUBSOIL	SHRUB	BROADCAST	Y	N	2	83.2	3.5	0.5	12.8	0.0	1.3	0.0	1.0	9.0	1.5
LOWER SUBSOIL	SHRUB	BROADCAST	Y	N	3	54.4	1.3	0.5	43.8	0.0	0.0	0.0	1.2	42.1	0.5
UPPER SUBSOIL	SHRUB	BROADCAST	Y	N	4	43.5	1.5	0.0	55.0	0.0	4.1	0.0	0.1	50.8	0.0
UPPER SUBSOIL	SHRUB	BROADCAST	Y	N	5	62.7	1.5	0.0	35.8	0.0	0.0	0.0	0.6	35.2	0.0
UPPER SUBSOIL	SHRUB	BROADCAST	Y	N	6	70.9	3.8	0.0	25.3	0.0	0.1	0.3	0.6	23.4	0.9
------TOTALS FOR Y															
						389.7	17.1	1.5	191.7	0.0	5.5	0.3	4.0	173.1	8.8
------ AVERAGE FOR Y															
						65.0	2.9	0.3	32.0	0.0	0.9	0.1	0.7	28.8	1.5
------ STANDARD DEV. Y															
						13.2	1.5	0.3	14.5	0.0	1.5	0.1	0.4	15.2	2.0
------TOTALS FOR BROADCAST															
						836.7	44.8	5.7	312.8	0.0	7.9	0.6	10.6	283.0	10.7
------ AVERAGE FOR BROADCAST															
						69.7	3.7	0.5	26.1	0.0	0.7	0.1	0.9	23.6	0.9
------ STANDARD DEV. BROADCAST															
						12.5	1.9	0.4	13.8	0.0	1.2	0.1	0.4	14.2	1.6
LOWER SUBSOIL	SHRUB	DRILL	N	N	1	67.0	7.5	0.5	25.0	0.0	0.0	0.0	0.3	24.6	0.1
LOWER SUBSOIL	SHRUB	DRILL	N	N	2	78.9	6.8	1.0	13.3	0.0	0.0	0.5	0.7	11.3	0.8
LOWER SUBSOIL	SHRUB	DRILL	N	N	3	79.9	5.0	2.3	12.8	0.0	0.0	0.3	0.3	11.6	0.6
UPPER SUBSOIL	SHRUB	DRILL	N	N	4	67.2	2.5	0.8	29.5	0.0	0.0	0.0	0.3	28.2	1.0
UPPER SUBSOIL	SHRUB	DRILL	N	N	5	81.7	3.5	0.3	14.5	0.0	0.0	0.0	0.7	13.2	0.6
UPPER SUBSOIL	SHRUB	DRILL	N	N	6	80.1	9.3	1.3	9.3	0.0	0.0	0.7	2.2	6.2	0.2
------TOTALS FOR N															
						454.8	34.6	6.2	104.4	0.0	0.0	1.5	4.5	95.1	3.3
------ AVERAGE FOR N															
						75.8	5.8	1.0	17.4	0.0	0.0	0.3	0.8	15.8	0.6
------ STANDARD DEV. N															
						6.2	2.3	0.7	7.3	0.0	0.0	0.3	0.7	7.8	0.3
LOWER SUBSOIL	SHRUB	DRILL	Y	N	1	62.5	9.5	0.5	27.5	0.0	0.0	0.3	1.5	25.6	0.1
LOWER SUBSOIL	SHRUB	DRILL	Y	N	2	65.2	3.3	1.5	30.0	0.0	0.0	1.5	1.2	27.3	0.0
LOWER SUBSOIL	SHRUB	DRILL	Y	N	3	73.9	4.4	0.0	21.7	0.0	0.0	0.9	1.8	19.0	0.0
UPPER SUBSOIL	SHRUB	DRILL	Y	N	4	54.6	4.3	0.3	40.8	0.0	0.0	0.1	0.7	39.7	0.3
UPPER SUBSOIL	SHRUB	DRILL	Y	N	5	70.7	1.3	0.0	28.0	0.0	0.0	0.0	1.3	26.5	0.2
UPPER SUBSOIL	SHRUB	DRILL	Y	N	6	78.2	2.5	0.3	19.0	0.0	0.0	0.1	2.6	15.4	0.9

12-05-83

SUBSOIL COVER -1983-

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
----TOTALS FOR Y						405.1	25.3	2.6	167.0	0.0	0.0	2.9	9.1	153.5	1.5
----- AVERAGE FOR Y						67.5	4.2	0.4	27.8	0.0	0.0	0.5	1.5	25.6	0.3
----- STANDARD DEV. Y						7.8	2.6	0.5	6.9	0.0	0.0	0.5	0.6	7.6	0.3
----TOTALS FOR DRILL						859.9	59.9	8.8	271.4	0.0	0.0	4.4	13.6	248.6	4.8
----- AVERAGE FOR DRILL						71.7	5.0	0.7	22.6	0.0	0.0	0.4	1.1	20.7	0.4
----- STANDARD DEV. DRILL						8.2	2.6	0.7	8.8	0.0	0.0	0.4	0.7	9.1	0.3
----TOTALS FOR SHRUB						*96.6	104.7	14.5	584.2	0.0	7.9	5.0	24.2	531.6	15.5
----- AVERAGE FOR SHRUB						70.7	4.4	0.6	24.3	0.0	0.3	0.2	1.0	22.2	0.6
----- STANDARD DEV. SHRUB						10.6	2.4	0.6	11.7	0.0	0.9	0.4	0.6	12.0	1.2
----------GRAND TOTALS----------						*81.2	150.5	23.6	844.7	0.0	7.9	6.8	70.8	679.4	79.8
----------REPORT AVER.----------						71.7	4.2	0.7	23.5	0.0	0.2	0.2	2.0	18.9	2.2
----------REPORT STANDARD DEVIATION----------						9.8	2.1	0.6	10.8	0.0	0.8	0.3	1.8	11.4	3.4

SUBSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGINE	ORHY	ASCI	LILE	SPNU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER SUBSOIL	SHRUB	BROADCAST	N	N	1																				
SEEDED						1.5	0.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.0		1.0	3.0
UNSEEDED																									
TOTAL																			0.0	0.0	0.0	0.0	70.0	0.0	70.0
																			0.0	0.0	0.0	2.0	70.0	1.0	73.0
LOWER SUBSOIL	SHRUB	BROADCAST	N	N	2																				
SEEDED						5.5	6.5	4.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		12.0		11.0	23.0
UNSEEDED																									
TOTAL																			0.0	0.0	0.0	0.0	26.5	0.0	26.5
																			0.0	0.0	0.0	12.0	26.5	11.0	49.5
LOWER SUBSOIL	SHRUB	BROADCAST	N	N	3																				
SEEDED						2.5	32.5	11.5	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		35.0		36.5	71.5
UNSEEDED																									
TOTAL																			0.0	0.0	0.0	0.0	8.0	0.0	8.0
																			0.0	0.0	0.0	35.0	8.0	36.5	79.5
UPPER SUBSOIL	SHRUB	BROADCAST	N	N	4																				
SEEDED						2.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		5.5		0.0	5.5
UNSEEDED																									
TOTAL																			0.0	0.0	0.0	0.0	34.5	0.0	34.5
																			0.0	0.0	0.0	5.5	34.5	0.0	40.0
UPPER SUBSOIL	SHRUB	BROADCAST	N	N	5																				
SEEDED						1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		4.5		0.0	4.5
UNSEEDED																									
TOTAL																			0.0	0.0	0.5	0.5	44.0	0.0	45.0
																			0.0	0.0	0.5	5.0	44.0	0.0	49.5
UPPER SUBSOIL	SHRUB	BROADCAST	N	N	6																				
SEEDED						2.0	1.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	1.0	0.0		1.5		3.5		0.0	5.0
UNSEEDED																									
TOTAL																			0.0	0.0	0.5	0.5	35.5	0.0	36.5
																			0.0	1.5	0.5	4.0	35.5	0.0	41.5
- - - - - T O T A L S FOR N - - - - -																									
SEEDED						15.0	47.5	16.0	32.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	1.0	0.0		1.5		62.5		48.5	112.5
UNSEEDED																									
TOTAL																			0.0	0.0	1.0	1.0	218.5	0.0	220.5
																			0.0	1.5	1.0	63.5	218.5	48.5	333.0
- - - - - AVERAGE FOR N - - - - -																									
SEEDED						2.5	7.9	2.7	5.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0		0.3		10.4		8.1	18.8
UNSEEDED																									
TOTAL																			0.0	0.0	0.2	0.2	36.4	0.0	36.8
																			0.0	0.3	0.2	10.6	36.4	8.1	55.5
- - - - - STANDARD DEV. N - - - - -																									
SEEDED						1.4	11.2	4.3	9.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.0		0.6		11.4		13.3	24.6
UNSEEDED																									
TOTAL																			0.0	0.0	0.2	0.2	18.7	0.0	18.8
																			0.0	0.6	0.2	11.3	18.7	13.3	15.2
LOWER SUBSOIL	SHRUB	BROADCAST	Y	N	1																				
SEEDED						3.0	9.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		12.5		3.5	16.0
UNSEEDED																									
TOTAL																			0.0	0.0	0.0	0.0	55.5	0.5	56.0
																			0.0	0.0	0.0	12.5	55.5	4.0	72.0
LOWER SUBSOIL	SHRUB	BROADCAST	Y	N	2																				
SEEDED						5.5	11.0	1.5	1.5	0.0	0.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0		2.0		16.5		3.0	21.5
UNSEEDED																									
TOTAL																			0.0	0.0	0.0	0.0	14.5	0.5	15.0
																			0.0	2.0	0.0	16.5	14.5	3.5	36.5

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER SUBSOIL		SHRUB	BROADCAST	Y	N	3														
SEEDED	2.5	3.5	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		6.0		2.5	8.5
UNSEEDED														0.0	0.0	0.0	0.0	16.5	0.0	16.5
TOTAL														0.0	0.0	0.0	6.0	16.5	2.5	25.0
UPPER SUBSOIL		SHRUB	BROADCAST	Y	N	4														
SEEDED	0.0	3.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0		0.5		3.0		0.0	3.5
UNSEEDED														0.0	0.0	0.0	0.0	34.5	0.0	34.5
TOTAL														0.0	0.5	0.0	3.0	34.5	0.0	38.0
UPPER SUBSOIL		SHRUB	BROADCAST	Y	N	5														
SEEDED	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.0		0.0	2.0
UNSEEDED														0.0	0.0	0.0	0.5	19.0	0.0	19.5
TOTAL														0.0	0.0	0.0	2.5	19.0	0.0	21.5
UPPER SUBSOIL		SHRUB	BROADCAST	Y	N	6														
SEEDED	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0		0.5		0.0		0.0	0.5
UNSEEDED														0.0	0.0	1.0	0.5	25.0	0.5	27.0
TOTAL														0.0	0.5	1.0	0.5	25.0	0.5	27.5
- - - - - T O T A L S FOR Y - - - - -																				
SEEDED	11.5	28.5	4.5	4.5	0.0	0.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0		3.0		40.0		9.0	52.0
UNSEEDED														0.0	0.0	1.0	1.0	165.0	1.5	168.5
TOTAL														0.0	3.0	1.0	41.0	165.0	10.5	220.5
- - - - - AVERAGE FOR Y - - - - -																				
SEEDED	1.9	4.8	0.8	0.8	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0		0.5		6.7		1.5	8.7
UNSEEDED														0.0	0.0	0.2	0.2	27.5	0.3	28.1
TOTAL														0.0	0.5	0.2	6.8	27.5	1.8	36.8
- - - - - STANDARD DEV. Y - - - - -																				
SEEDED	2.0	4.1	0.8	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0		0.7		5.9		1.5	7.7
UNSEEDED														0.0	0.0	0.4	0.2	14.2	0.3	14.1
TOTAL														0.0	0.7	0.4	5.8	14.2	1.7	16.8
- - - - - T O T A L S FOR BROADCAST - - - - -																				
SEEDED	26.5	76.0	20.5	37.0	0.0	0.0	3.0	0.5	0.0	0.0	0.0	1.0	0.0		4.5		102.5		57.5	164.5
UNSEEDED														0.0	0.0	2.0	2.0	383.5	1.5	389.0
TOTAL														0.0	4.5	2.0	104.5	383.5	59.0	553.5
- - - - - AVERAGE FOR BROADCAST - - - - -																				
SEEDED	2.2	6.3	1.7	3.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0		0.4		8.5		4.8	13.7
UNSEEDED														0.0	0.0	0.2	0.2	32.0	0.1	32.4
TOTAL														0.0	0.4	0.2	8.7	32.0	4.9	46.1
- - - - - STANDARD DEV. BROADCAST - - - - -																				
SEEDED	1.7	8.5	3.2	6.8	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.3	0.0		0.6		9.3		10.0	18.9
UNSEEDED														0.0	0.0	0.3	0.2	17.2	0.2	17.2
TOTAL														0.0	0.6	0.3	9.2	17.2	10.0	18.6

SUBSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER SUBSOIL		SHRUB	DRILL		N	N	1													
SEEDED	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.0		0.0	3.0
UNSEEDED														0.0	0.0	0.5	0.0	73.5	0.5	74.5
TOTAL														0.0	0.0	0.5	3.0	73.5	0.5	77.5
LOWER SUBSOIL		SHRUB	DRILL		N	N	2													
SEEDED	0.5	9.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		9.5		3.0	12.5
UNSEEDED														0.0	0.0	1.0	0.5	26.0	0.0	27.5
TOTAL														0.0	0.0	1.0	10.0	26.0	3.0	40.0
LOWER SUBSOIL		SHRUB	DRILL		N	N	3													
SEEDED	0.5	6.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0		0.5		7.0		1.5	9.0
UNSEEDED														0.0	0.0	1.5	0.0	35.5	0.0	37.0
TOTAL														0.0	0.5	1.5	7.0	35.5	1.5	46.0
UPPER SUBSOIL		SHRUB	DRILL		N	N	4													
SEEDED	0.5	6.5	3.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.0		4.0	11.0
UNSEEDED														0.0	0.0	0.0	0.0	84.5	0.0	84.5
TOTAL														0.0	0.0	0.0	7.0	84.5	4.0	95.5
UPPER SUBSOIL		SHRUB	DRILL		N	N	5													
SEEDED	0.5	8.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		8.5		4.5	13.0
UNSEEDED														0.0	0.0	0.0	0.0	49.5	0.0	49.5
TOTAL														0.0	0.0	0.0	8.5	49.5	4.5	62.5
UPPER SUBSOIL		SHRUB	DRILL		N	N	6													
SEEDED	3.0	5.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		8.0		3.5	11.5
UNSEEDED														0.0	0.0	1.0	0.5	21.0	0.0	22.5
TOTAL														0.0	0.0	1.0	8.5	21.0	3.5	34.0
----- TOTALS FOR N -----																				
SEEDED	5.0	38.0	8.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0		0.5		43.0		16.5	60.0
UNSEEDED														0.0	0.0	4.0	1.0	290.0	0.5	295.5
TOTAL														0.0	0.5	4.0	44.0	290.0	17.0	355.5
----- AVERAGE FOR N -----																				
SEEDED	0.8	6.3	1.3	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		0.1		7.2		2.8	10.0
UNSEEDED														0.0	0.0	0.7	0.2	48.3	0.1	49.3
TOTAL														0.0	0.1	0.7	7.3	48.3	2.8	59.3
----- STANDARD DEV. N -----																				
SEEDED	1.0	2.0	1.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0		0.2		2.1		1.5	3.4
UNSEEDED														0.0	0.0	0.6	0.2	23.6	0.2	23.2
TOTAL														0.0	0.2	0.6	2.2	23.6	1.4	21.8
LOWER SUBSOIL		SHRUB	DRILL		Y	N	1													
SEEDED	0.5	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.5		1.0	3.5
UNSEEDED														0.0	0.0	1.0	1.5	32.0	0.0	34.5
TOTAL														0.0	0.0	1.0	4.0	32.0	1.0	38.0
LOWER SUBSOIL		SHRUB	DRILL		Y	N	2													
SEEDED	1.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		6.0		0.0	6.0
UNSEEDED														0.0	0.0	1.5	0.5	33.5	0.0	35.5
TOTAL														0.0	0.0	1.5	6.5	33.5	0.0	41.5

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER SUBSOIL		SHRUB	DRILL		Y	N	3													
SEEDED	1.3	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		10.0		0.0	10.0
UNSEEDED														0.0	0.0	2.0	0.7	21.3	0.0	24.0
TOTAL														0.0	0.0	2.0	10.7	21.3	0.0	34.0
UPPER SUBSOIL		SHRUB	DRILL		Y	N	4													
SEEDED	1.0	2.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.5		1.5	5.0
UNSEEDED														0.0	0.0	0.5	0.5	28.5	0.5	30.0
TOTAL														0.0	0.0	0.5	4.0	28.5	2.0	35.0
UPPER SUBSOIL		SHRUB	DRILL		Y	N	5													
SEEDED	0.5	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		12.5		0.0	12.5
UNSEEDED														0.0	0.0	0.0	1.0	23.5	0.5	25.0
TOTAL														0.0	0.0	0.0	13.5	23.5	0.5	37.5
UPPER SUBSOIL		SHRUB	DRILL		Y	N	6													
SEEDED	2.0	4.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		6.5		1.0	7.5
UNSEEDED														0.0	0.0	0.5	2.5	29.5	1.0	33.5
TOTAL														0.0	0.0	0.5	9.0	29.5	2.0	41.0
- - - - - T O T A L S FOR Y - - - - -																				
SEEDED	6.3	34.7	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		41.0		3.5	44.5
UNSEEDED														0.0	0.0	5.5	6.7	168.3	2.0	182.5
TOTAL														0.0	0.0	5.5	47.7	168.3	5.5	227.0
- - - - - AVERAGE FOR Y - - - - -																				
SEEDED	1.1	5.8	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		6.8		0.6	7.4
UNSEEDED														0.0	0.0	0.9	1.1	28.1	0.3	30.4
TOTAL														0.0	0.0	0.9	8.0	28.1	0.9	37.8
- - - - - STANDARD DEV. Y - - - - -																				
SEEDED	0.5	3.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.5		0.6	3.0
UNSEEDED														0.0	0.0	0.7	0.7	4.4	0.4	4.5
TOTAL														0.0	0.0	0.7	3.5	4.4	0.8	2.8
- - - - - T O T A L S FOR DRILL - - - - -																				
SEEDED	11.3	72.7	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0		0.5		84.0		20.0	104.5
UNSEEDED														0.0	0.0	9.5	7.7	458.3	2.5	478.0
TOTAL														0.0	0.5	9.5	91.7	458.3	22.5	582.5
- - - - - AVERAGE FOR DRILL - - - - -																				
SEEDED	0.9	6.1	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.0		1.7	8.7
UNSEEDED														0.0	0.0	0.8	0.6	38.2	0.2	39.8
TOTAL														0.0	0.0	0.8	7.6	38.2	1.9	48.5
- - - - - STANDARD DEV. DRILL - - - - -																				
SEEDED	0.8	2.9	1.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		0.1		2.9		1.6	3.5
UNSEEDED														0.0	0.0	0.6	0.7	19.8	0.3	19.2
TOTAL														0.0	0.1	0.6	2.9	19.8	1.5	18.8

SUBSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS								JUV.			ANN.	PER.	ANN.	PER.	
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	GRASS	TREE	SHRUB	GRASS	GRASS	FORB	FORB	TOTAL
GRAND TOTALS																				
SEEDED	37.8	148.7	30.5	47.0	0.0	0.0	3.0	0.5	0.0	0.0	0.5	1.0	0.0		5.0		186.5		77.5	269.0
UNSEEDED														0.0	0.0	11.5	9.7	841.8	4.0	867.0
TOTAL														0.0	5.0	11.5	196.2	841.8	81.5	1136.0
REPORT AVER.																				
SEEDED	1.6	6.2	1.3	2.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		0.2		7.8		3.2	11.2
UNSEEDED														0.0	0.0	0.5	0.4	35.1	0.2	36.1
TOTAL														0.0	0.2	0.5	8.2	35.1	3.4	47.3
REPORT STANDARD DEVIATION																				
SEEDED	1.5	6.4	2.4	5.0	0.0	0.0	0.3	0.1	0.0	0.0	0.1	0.2	0.0		0.5		6.9		7.3	13.8
UNSEEDED														0.0	0.0	0.6	0.6	18.8	0.3	18.6
TOTAL														0.0	0.5	0.6	6.8	18.8	7.3	18.8

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
		AGBA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER SUBSOIL	GRASS	DRILL	N	N	1													
	SEEDED	1.5	3.0	1.5	1.0	1.5	0.0	2.0	1.5	2.0	0.5				11.0		3.5	14.5
	UNSEEDED											0.0	0.0	0.0	0.0	35.5	0.0	35.5
	TOTAL											0.0	0.0	0.0	11.0	35.5	3.5	50.0
LOWER SUBSOIL	GRASS	DRILL	N	N	2													
	SEEDED	0.5	5.0	2.5	1.5	1.0	0.0	3.5	0.0	0.0	0.0				14.0		0.0	14.0
	UNSEEDED											0.0	0.0	0.5	0.0	40.0	0.0	40.5
	TOTAL											0.0	0.0	0.5	14.0	40.0	0.0	54.5
LOWER SUBSOIL	GRASS	DRILL	N	N	3													
	SEEDED	1.0	3.0	1.0	0.5	3.0	0.0	5.5	1.5	1.5	0.0				14.0		3.0	17.0
	UNSEEDED											0.0	0.0	0.5	0.0	17.5	0.0	18.0
	TOTAL											0.0	0.0	0.5	14.0	17.5	3.0	35.0
UPPER SUBSOIL	GRASS	DRILL	N	N	4													
	SEEDED	0.0	4.5	0.0	0.5	1.5	0.0	2.0	1.0	1.0	0.0				8.5		2.0	10.5
	UNSEEDED											0.0	0.0	0.0	1.5	102.0	0.0	103.5
	TOTAL											0.0	0.0	0.0	10.0	102.0	2.0	114.0
UPPER SUBSOIL	GRASS	DRILL	N	N	5													
	SEEDED	0.5	2.0	0.0	1.5	0.0	0.0	4.5	0.5	1.0	0.0				8.5		1.5	10.0
	UNSEEDED											0.0	0.0	0.0	0.0	47.5	0.0	47.5
	TOTAL											0.0	0.0	0.0	8.5	47.5	1.5	57.5
UPPER SUBSOIL	GRASS	DRILL	N	N	6													
	SEEDED	0.0	0.5	2.5	0.0	0.0	0.0	1.5	0.5	0.0	0.0				4.5		0.5	5.0
	UNSEEDED											0.0	0.0	1.0	1.0	39.5	0.0	41.5
	TOTAL											0.0	0.0	1.0	5.5	39.5	0.5	46.5
----- T O T A L S FOR N -----																		
	SEEDED	3.5	18.0	7.5	5.0	7.0	0.0	19.0	5.0	5.5	0.5				60.5		10.5	71.0
	UNSEEDED											0.0	0.0	2.0	2.5	282.0	0.0	286.5
	TOTAL											0.0	0.0	2.0	63.0	282.0	10.5	357.5
----- AVERAGE FOR N -----																		
	SEEDED	0.6	3.0	1.3	0.8	1.2	0.0	3.2	0.8	0.9	0.1				10.1		1.8	11.8
	UNSEEDED											0.0	0.0	0.3	0.4	47.0	0.0	47.8
	TOTAL											0.0	0.0	0.3	10.5	47.0	1.8	59.6
----- STANDARD DEV. N -----																		
	SEEDED	0.5	1.5	1.0	0.6	1.0	0.0	1.5	0.6	0.7	0.2				3.4		1.3	3.9
	UNSEEDED											0.0	0.0	0.4	0.6	26.2	0.0	26.6
	TOTAL											0.0	0.0	0.4	3.0	26.2	1.3	25.4
LOWER SUBSOIL	GRASS	DRILL	Y	N	1													
	SEEDED	0.0	1.0	1.0	0.0	1.5	0.0	6.5	1.5	0.5	6.5				16.5		2.0	18.5
	UNSEEDED											0.0	0.0	0.5	0.0	36.5	0.0	37.0
	TOTAL											0.0	0.0	0.5	16.5	36.5	2.0	55.5
LOWER SUBSOIL	GRASS	DRILL	Y	N	2													
	SEEDED	1.0	1.5	2.0	3.0	4.0	0.0	5.0	1.0	0.5	0.0				16.5		1.5	18.0
	UNSEEDED											0.0	0.0	0.0	1.0	47.0	0.0	48.0
	TOTAL											0.0	0.0	0.0	17.5	47.0	1.5	66.0

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER SUBSOIL	GRASS	DRILL	Y	N	3																	
	SEEDED					0.0	4.0	0.5	0.0	1.0	0.0	10.5	0.5	1.0	0.0				16.0		1.5	17.5
	UNSEEDED															0.0	0.0	1.5	0.5	38.0	0.0	40.0
	TOTAL															0.0	0.0	1.5	16.5	38.0	1.5	57.5
UPPER SUBSOIL	GRASS	DRILL	Y	N	4																	
	SEEDED					0.0	1.0	0.5	0.0	0.0	0.0	3.5	2.5	1.0	0.0				5.0		3.5	8.5
	UNSEEDED															0.0	0.0	0.5	1.5	69.5	0.0	71.5
	TOTAL															0.0	0.0	0.5	6.5	69.5	3.5	80.0
UPPER SUBSOIL	GRASS	DRILL	Y	N	5																	
	SEEDED					0.0	1.5	0.0	0.0	1.0	0.0	4.5	1.0	1.5	0.0				7.0		2.5	9.5
	UNSEEDED															0.0	0.0	0.0	1.5	47.0	0.0	48.5
	TOTAL															0.0	0.0	0.0	8.5	47.0	2.5	58.0
UPPER SUBSOIL	GRASS	DRILL	Y	N	6																	
	SEEDED					0.0	0.0	0.5	0.0	0.5	0.0	1.0	2.5	1.5	0.0				2.0		4.0	6.0
	UNSEEDED															0.0	0.0	1.0	0.5	65.0	0.0	66.5
	TOTAL															0.0	0.0	1.0	2.5	65.0	4.0	72.5
----- TOTALS FOR Y -----																						
	SEEDED					1.0	9.0	4.5	3.0	8.0	0.0	31.0	9.0	6.0	6.5				63.0		15.0	78.0
	UNSEEDED															0.0	0.0	3.5	5.0	303.0	0.0	311.5
	TOTAL															0.0	0.0	3.5	68.0	303.0	15.0	389.5
----- AVERAGE FOR Y -----																						
	SEEDED					0.2	1.5	0.8	0.5	1.3	0.0	5.2	1.5	1.0	1.1				10.5		2.5	13.0
	UNSEEDED															0.0	0.0	0.6	0.8	50.5	0.0	51.9
	TOTAL															0.0	0.0	0.6	11.3	50.5	2.5	64.9
----- STANDARD DEV. Y -----																						
	SEEDED					0.4	1.2	0.6	1.1	1.3	0.0	2.9	0.8	0.4	2.4				6.0		1.0	5.1
	UNSEEDED															0.0	0.0	0.5	0.6	12.6	0.0	12.8
	TOTAL															0.0	0.0	0.5	5.8	12.6	1.0	8.9
----- GRAND TOTALS -----																						
	SEEDED					4.5	27.0	12.0	8.0	15.0	0.0	50.0	14.0	11.5	7.0				123.5		25.5	149.0
	UNSEEDED															0.0	0.0	5.5	7.5	585.0	0.0	598.0
	TOTAL															0.0	0.0	5.5	131.0	585.0	25.5	747.0
----- REPORT AVER. -----																						
	SEEDED					0.4	2.3	1.0	0.7	1.3	0.0	4.2	1.2	1.0	0.6				10.3		2.1	12.4
	UNSEEDED															0.0	0.0	0.5	0.6	48.8	0.0	49.8
	TOTAL															0.0	0.0	0.5	10.9	48.8	2.1	62.3
----- REPORT STANDARD DEVIATION -----																						
	SEEDED					0.5	1.6	0.9	0.9	1.2	0.0	2.5	0.7	0.6	1.8				4.9		1.2	4.6
	UNSEEDED															0.0	0.0	0.5	0.6	20.7	0.0	21.0
	TOTAL															0.0	0.0	0.5	4.6	20.7	1.2	19.2

12-08-83

SUBSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TOTAL	ARFR % SURVIVAL	ARNO ALIVE	ARNO TOTAL	ARNO % SURVIVAL	CEMO ALIVE	CEMO TOTAL	CEMO % SURVIVAL	JUSC ALIVE	JUSC TOTAL	JUSC % SURVIVAL	ROMO ALIVE	ROMO TOTAL	ROMO % SURVIVAL	TOTAL ALIVE	TOTAL TOTAL	TOTAL % SURVIVAL
LOWER SUBSOIL	BASIN NO F 1	2	3	66.7	3	3	100.0	0	3	0.0	3	3	100.0	1	3	33.3	9	15	60.0
	HEIGHT (CM)	45.0			15.0			0.0			14.3			14.0					
LOWER SUBSOIL	BASIN NO F 2	3	3	100.0	1	3	33.3	2	3	66.7	3	3	100.0	3	3	100.0	12	15	80.0
	HEIGHT (CM)	39.0			11.0			13.0			10.7			20.3					
LOWER SUBSOIL	BASIN NO F 3	3	3	100.0	2	3	66.7	2	3	66.7	1	3	33.3	3	3	100.0	11	15	73.3
	HEIGHT (CM)	46.0			16.5			9.0			13.0			16.7					
UPPER SUBSOIL	BASIN NO F 4	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	2	3	66.7	14	15	93.3
	HEIGHT (CM)	45.7			14.3			7.0			12.7			16.0					
UPPER SUBSOIL	BASIN NO F 5	3	3	100.0	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	14	15	93.3
	HEIGHT (CM)	43.3			16.7			10.3			14.5			13.3					
UPPER SUBSOIL	BASIN NO F 6	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	36.7			15.7			7.0			14.3			14.3					
----- T O T A L S FOR NO F -----																			
		17	18	566.7	15	18	500.0	11	18	366.7	15	18	500.0	15	18	500.0	73	90	486.6
	HEIGHT (CM)	255.7			89.2			46.3			79.5			94.6					
----- AVERAGE FOR NO F -----																			
		3	3	94.5	3	3	83.3	2	3	61.1	3	3	83.3	3	3	83.3	12	15	81.1
	HEIGHT (CM)	42.6			14.9			7.7			13.3			15.8					
----- STANDARD DEV. NO F -----																			
		0	0	12.4	1	0	25.5	1	0	35.6	1	0	25.5	1	0	25.5	2	0	11.8
	HEIGHT (CM)	3.5			1.9			4.0			1.3			2.3					
LOWER SUBSOIL	BASIN FERT 1	0	3	0.0	3	3	100.0	0	3	0.0	2	3	66.7	0	3	0.0	5	15	33.3
	HEIGHT (CM)	0.0			19.0			0.0			10.0			0.0					
LOWER SUBSOIL	BASIN FERT 2	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	44.0			24.0			10.0			13.0			15.7					
LOWER SUBSOIL	BASIN FERT 3	3	3	100.0	3	3	100.0	0	3	0.0	2	3	66.7	2	3	66.7	10	15	66.7
	HEIGHT (CM)	47.3			16.3			0.0			12.0			23.5					
UPPER SUBSOIL	BASIN FERT 4	3	3	100.0	3	3	100.0	0	3	0.0	2	3	66.7	2	3	66.7	10	15	66.7
	HEIGHT (CM)	42.3			19.3			0.0			16.5			15.5					
UPPER SUBSOIL	BASIN FERT 5	3	3	100.0	3	3	100.0	0	3	0.0	3	3	100.0	1	3	33.3	10	15	66.7
	HEIGHT (CM)	41.3			24.0			0.0			11.3			11.0					
UPPER SUBSOIL	BASIN FERT 6	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	42.3			17.7			7.0			17.3			13.7					
----- T O T A L S FOR FERT -----																			
		15	18	500.0	17	18	566.7	3	18	100.0	15	18	500.1	11	18	366.7	61	90	406.8
	HEIGHT (CM)	217.2			120.3			17.0			80.1			79.4					
----- AVERAGE FOR FERT -----																			
		3	3	83.3	3	3	94.5	1	3	16.7	3	3	83.3	2	3	61.1	10	15	67.8
	HEIGHT (CM)	36.2			20.1			2.8			13.3			13.2					
----- STANDARD DEV. FERT -----																			
		1	0	37.3	0	0	12.4	1	0	25.5	1	0	16.6	1	0	35.6	3	0	17.8
	HEIGHT (CM)	16.3			3.0			4.1			2.7			7.0					

SUBSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TOTAL	ARFR % SURV	ARNO ALIVE	ARNO TOTAL	ARNO % SURV	CEMO ALIVE	CEMO TOTAL	CEMO % SURV	JUSC ALIVE	JUSC TOTAL	JUSC % SURV	ROMO ALIVE	ROMO TOTAL	ROMO % SURV	TOTAL ALIVE	TOTAL TOTAL	TOTAL % SURV
----- TOTALS FOR BASIN -----		32	36	*66.7	32	36	*66.7	14	36	466.7	30	36	*83.1	26	36	866.7	134	180	893.4
	HEIGHT (CM)	472.9			209.5			63.3			159.6			174.0					
----- AVERAGE FOR BASIN -----		3	3	88.9	3	3	88.9	1	3	38.9	3	3	83.3	2	3	72.2	11	15	74.5
	HEIGHT (CM)	39.4			17.5			5.3			13.3			14.5					
----- STANDARD DEV. BASIN -----		1	0	28.3	1	0	20.8	1	0	38.1	1	0	21.5	1	0	32.9	2	0	16.5
	HEIGHT (CM)	12.2			3.6			4.7			2.1			5.4					
LOWER SUBSOIL	FLAT NO F 1	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	40.0			14.5			8.0			10.0			17.3					
LOWER SUBSOIL	FLAT NO F 2	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	46.3			15.3			8.5			14.7			18.7					
LOWER SUBSOIL	FLAT NO F 3	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	48.3			18.7			7.5			12.7			20.0					
UPPER SUBSOIL	FLAT NO F 4	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	15	15	100.0
	HEIGHT (CM)	35.0			12.3			7.7			13.0			11.3					
UPPER SUBSOIL	FLAT NO F 5	3	3	100.0	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	13	15	86.7
	HEIGHT (CM)	42.7			11.7			8.0			13.0			12.0					
UPPER SUBSOIL	FLAT NO F 6	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	1	3	33.3	12	15	80.0
	HEIGHT (CM)	39.0			12.5			5.7			16.0			13.0					
----- TOTALS FOR NO F -----		18	18	600.0	16	18	533.4	14	18	466.8	17	18	566.7	16	18	533.3	81	90	540.0
	HEIGHT (CM)	251.3			85.0			45.4			79.4			92.3					
----- AVERAGE FOR NO F -----		3	3	100.0	3	3	88.9	2	3	77.8	3	3	94.5	3	3	88.9	14	15	90.0
	HEIGHT (CM)	41.9			14.2			7.6			13.2			15.4					
----- STANDARD DEV. NO F -----		0	0	0.0	0	0	15.7	0	0	15.7	0	0	12.4	1	0	24.9	1	0	6.4
	HEIGHT (CM)	4.5			2.4			0.9			1.9			3.4					
LOWER SUBSOIL	FLAT FERT 1	3	3	100.0	2	3	66.7	1	3	33.3	2	3	66.7	2	3	66.7	10	15	66.7
	HEIGHT (CM)	42.3			19.0			10.0			12.0			12.5					
LOWER SUBSOIL	FLAT FERT 2	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	48.0			15.0			9.5			14.0			17.7					
LOWER SUBSOIL	FLAT FERT 3	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	46.0			13.0			9.7			12.3			18.3					
UPPER SUBSOIL	FLAT FERT 4	3	3	100.0	2	3	66.7	1	3	33.3	3	3	100.0	1	3	33.3	10	15	66.7
	HEIGHT (CM)	43.3			20.0			10.0			12.7			12.0					
UPPER SUBSOIL	FLAT FERT 5	3	3	100.0	2	3	66.7	0	3	0.0	3	3	100.0	2	3	66.7	10	15	66.7
	HEIGHT (CM)	43.3			24.5			0.0			8.7			22.0					
UPPER SUBSOIL	FLAT FERT 6	3	3	100.0	3	3	100.0	3	3	100.0	2	3	66.7	2	3	66.7	13	15	86.7
	HEIGHT (CM)	44.7			25.0			5.7			12.5			12.5					

SUBSOIL

SURVIVAL AND HEIGHT

SOIL / WATER FERT REP HARVEST	ARFR ALIVE	ARFR TOTAL	ARFR % SURV	ARNO ALIVE	ARNO TOTAL	ARNO % SURV	CEMO ALIVE	CEMO TOTAL	CEMO % SURV	JUSC ALIVE	JUSC TOTAL	JUSC % SURV	ROWO ALIVE	ROWO TOTAL	ROWO % SURV	TOTAL ALIVE	TOTAL TOTAL	TOTAL % SURV
TOTALS FOR FERT	18	18	600.0	14	18	466.8	10	18	333.3	16	18	533.4	13	18	433.4	71	90	473.4
HEIGHT (CM)	267.6			116.5			44.9			72.2			95.0					
AVERAGE FOR FERT	3	3	100.0	2	3	77.8	2	3	55.6	3	3	88.9	2	3	72.2	12	15	78.9
HEIGHT (CM)	44.6			19.4			7.5			12.0			15.8					
STANDARD DEV. FERT	0	0	0.0	0	0	15.7	1	0	36.9	0	0	15.7	1	0	22.9	2	0	12.4
HEIGHT (CM)	1.9			4.4			3.7			1.6			3.8					
TOTALS FOR FLAT	36	36	*00.0	30	36	*00.2	24	36	800.1	33	36	*00.1	29	36	966.7	152	180	*13.4
HEIGHT (CM)	518.9			201.5			90.3			151.6			187.3					
AVERAGE FOR FLAT	3	3	100.0	3	3	83.4	2	3	66.7	3	3	91.7	2	3	80.6	13	15	84.5
HEIGHT (CM)	43.2			16.8			7.5			12.6			15.6					
STANDARD DEV. FLAT	0	0	0.0	1	0	16.6	1	0	30.4	0	0	14.4	1	0	25.3	2	0	11.3
HEIGHT (CM)	3.7			4.4			2.7			1.8			3.6					
GRAND TOTALS	68	72	*66.7	62	72	*66.9	38	72	*66.8	63	72	*00.2	55	72	*33.4	286	360	*06.8
HEIGHT (CM)	991.8			411.0			153.6			311.2			361.3					
REPORT AVER.	3	3	94.4	3	3	86.1	2	3	52.8	3	3	87.5	2	3	76.4	12	15	79.5
HEIGHT (CM)	41.3			17.1			6.4			13.0			15.1					
REPORT STANDARD DEVIATION	1	0	20.8	1	0	19.0	1	0	37.2	1	0	18.8	1	0	29.6	2	0	15.0
HEIGHT (CM)	9.2			4.0			4.0			2.0			4.6					

COVER

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
LOWER OVERBURDEN	GRASS	DRILL	N	N	1	31.1	38.8	1.3	28.8	0.0	0.0	0.0	2.5	12.3	14.0
UPPER OVERBURDEN	GRASS	DRILL	N	N	2	28.7	61.3	0.0	10.0	0.0	0.0	0.0	0.4	3.9	5.7
----- TOTALS FOR N -----						59.8	100.1	1.3	38.8	0.0	0.0	0.0	2.9	16.2	19.7
----- AVERAGE FOR N -----						29.9	50.0	0.7	19.4	0.0	0.0	0.0	1.5	8.1	9.9
----- STANDARD DEV. N -----						1.2	11.3	0.7	9.4	0.0	0.0	0.0	1.1	4.2	4.2
LOWER OVERBURDEN	GRASS	DRILL	Y	N	1	28.4	37.5	0.3	33.8	0.0	0.0	0.0	0.0	33.7	0.1
UPPER OVERBURDEN	GRASS	DRILL	Y	N	2	42.7	50.0	0.0	7.3	0.0	0.0	0.0	0.1	4.5	2.7
----- TOTALS FOR Y -----						71.1	87.5	0.3	41.1	0.0	0.0	0.0	0.1	38.2	2.8
----- AVERAGE FOR Y -----						35.5	43.8	0.2	20.5	0.0	0.0	0.0	0.1	19.1	1.4
----- STANDARD DEV. Y -----						7.2	6.3	0.2	13.3	0.0	0.0	0.0	0.1	14.6	1.3
----- TOTALS FOR DRILL -----						130.9	187.6	1.6	79.9	0.0	0.0	0.0	3.0	54.4	22.5
----- AVERAGE FOR DRILL -----						32.7	46.9	0.4	20.0	0.0	0.0	0.0	0.8	13.6	5.6
----- STANDARD DEV. DRILL -----						5.9	9.6	0.5	11.5	0.0	0.0	0.0	1.0	12.1	5.2
----- TOTALS FOR GRASS -----						130.9	187.6	1.6	79.9	0.0	0.0	0.0	3.0	54.4	22.5
----- AVERAGE FOR GRASS -----						32.7	46.9	0.4	20.0	0.0	0.0	0.0	0.8	13.6	5.6
----- STANDARD DEV. GRASS -----						5.9	9.6	0.5	11.5	0.0	0.0	0.0	1.0	12.1	5.2
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	1	27.7	48.8	0.5	23.0	0.0	0.0	1.2	0.1	11.1	10.6
UPPER OVERBURDEN	SHRUB	BROADCAST	N	N	2	47.9	43.8	0.0	8.3	0.0	1.6	0.0	0.2	5.6	0.9
----- TOTALS FOR N -----						75.6	92.6	0.5	31.3	0.0	1.6	1.2	0.3	16.7	11.5
----- AVERAGE FOR N -----						37.8	46.3	0.3	15.7	0.0	0.8	0.6	0.2	8.4	5.8
----- STANDARD DEV. N -----						10.1	2.5	0.3	7.4	0.0	0.8	0.6	0.1	2.8	4.9
LOWER OVERBURDEN	SHRUB	BROADCAST	Y	N	1	40.5	44.5	0.0	15.0	0.0	3.2	0.0	0.0	9.8	2.0
UPPER OVERBURDEN	SHRUB	BROADCAST	Y	N	2	44.5	45.0	0.0	10.5	0.0	1.5	0.0	0.2	8.1	0.7

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
----- TOTALS FOR Y -----						85.0	89.5	0.0	25.5	0.0	4.7	0.0	0.2	17.9	2.7
----- AVERAGE FOR Y -----						42.5	44.8	0.0	12.8	0.0	2.4	0.0	0.1	9.0	1.4
----- STANDARD DEV. Y -----						2.0	0.3	0.0	2.3	0.0	0.9	0.0	0.1	0.9	0.7
----- TOTALS FOR BROADCAST -----						160.6	182.1	0.5	56.8	0.0	6.3	1.2	0.5	34.6	14.2
----- AVERAGE FOR BROADCAST -----						40.2	45.5	0.1	14.2	0.0	1.6	0.3	0.1	8.7	3.5
----- STANDARD DEV. BROADCAST -----						7.7	1.9	0.2	5.6	0.0	1.1	0.5	0.1	2.1	4.1
LOWER OVERBURDEN	SHRUB	DRILL	N	N	1	22.2	48.8	1.5	27.5	0.0	0.0	0.0	0.1	8.1	19.3
UPPER OVERBURDEN	SHRUB	DRILL	N	N	2	34.7	52.5	0.0	12.8	0.0	0.6	0.0	0.3	11.7	0.2
----- TOTALS FOR N -----						56.9	101.3	1.5	40.3	0.0	0.6	0.0	0.4	19.8	19.5
----- AVERAGE FOR N -----						28.5	50.7	0.8	20.1	0.0	0.3	0.0	0.2	9.9	9.8
----- STANDARD DEV. N -----						6.3	1.9	0.8	7.4	0.0	0.3	0.0	0.1	1.8	9.6
LOWER OVERBURDEN	SHRUB	DRILL	Y	N	1	14.4	56.3	0.5	28.8	0.0	0.0	0.0	0.0	28.7	0.1
UPPER OVERBURDEN	SHRUB	DRILL	Y	N	2	30.2	55.0	0.0	14.8	0.0	0.0	0.0	0.3	14.5	0.0
----- TOTALS FOR Y -----						44.6	111.3	0.5	43.6	0.0	0.0	0.0	0.3	43.2	0.1
----- AVERAGE FOR Y -----						22.3	55.7	0.3	21.8	0.0	0.0	0.0	0.2	21.6	0.1
----- STANDARD DEV. Y -----						7.9	0.7	0.3	7.0	0.0	0.0	0.0	0.2	7.1	0.1
----- TOTALS FOR DRILL -----						101.5	212.6	2.0	83.9	0.0	0.6	0.0	0.7	63.0	19.6
----- AVERAGE FOR DRILL -----						25.4	53.2	0.5	21.0	0.0	0.2	0.0	0.2	15.8	4.9
----- STANDARD DEV. DRILL -----						7.8	2.9	0.6	7.2	0.0	0.3	0.0	0.1	7.8	8.3
----- TOTALS FOR SHRUB -----						262.1	394.7	2.5	140.7	0.0	6.9	1.2	1.2	97.6	33.8
----- AVERAGE FOR SHRUB -----						32.8	49.3	0.3	17.6	0.0	0.9	0.2	0.2	12.2	4.2
----- STANDARD DEV. SHRUB -----						10.7	4.5	0.5	7.3	0.0	1.1	0.4	0.1	6.7	6.6

OVERBURDEN

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
GRAND TOTALS						393.0	582.3	4.1	220.6	0.0	6.9	1.2	4.2	152.0	56.3
REPORT AVER.						32.8	48.5	0.3	18.4	0.0	0.6	0.1	0.4	12.7	4.7
REPORT STANDARD DEVIATION						9.3	6.8	0.5	9.0	0.0	1.0	0.3	0.7	8.9	6.2

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	1	28.0	70.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	2	55.5	42.5	0.0	2.0	0.0	0.0	0.0	0.0	1.7	0.3
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	3	34.5	62.5	0.5	2.5	0.0	0.0	0.0	0.0	1.6	0.9
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	4	40.0	55.0	0.5	4.5	0.0	0.0	0.0	0.0	4.5	0.0
----- T O T A L S FOR N -----						158.0	230.0	1.0	11.0	0.0	0.0	0.0	0.0	9.8	1.2
----- AVERAGE FOR N -----						39.5	57.5	0.3	2.8	0.0	0.0	0.0	0.0	2.5	0.3
----- STANDARD DEV. N -----						10.2	10.2	0.3	1.0	0.0	0.0	0.0	0.0	1.2	0.4
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	1	72.0	5.0	0.5	22.5	1.1	1.7	0.0	1.1	0.2	18.4
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	2	67.5	20.0	0.5	12.0	0.0	0.3	0.0	3.7	2.6	5.4
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	3	83.0	7.5	0.0	9.5	0.0	0.2	0.0	0.3	3.6	5.4
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	4	85.5	0.0	0.0	14.5	2.9	0.4	0.0	1.8	2.9	6.5
----- T O T A L S FOR Y -----						308.0	32.5	1.0	58.5	4.0	2.6	0.0	6.9	9.3	35.7
----- AVERAGE FOR Y -----						77.0	8.1	0.3	14.6	1.0	0.7	0.0	1.7	2.3	8.9
----- STANDARD DEV. Y -----						7.5	7.4	0.3	4.9	1.2	0.6	0.0	1.3	1.3	5.5
----- T O T A L S FOR GRASS -----						466.0	262.5	2.0	69.5	4.0	2.6	0.0	6.9	19.1	36.9
----- AVERAGE FOR GRASS -----						58.3	32.8	0.3	8.7	0.5	0.3	0.0	0.9	2.4	4.6
----- STANDARD DEV. GRASS -----						20.8	26.2	0.3	6.9	1.0	0.5	0.0	1.2	1.2	5.8
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	1	39.5	55.0	0.0	5.5	0.0	0.0	0.0	0.0	5.5	0.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	2	23.0	75.0	0.5	1.5	0.0	0.0	0.0	0.0	0.8	0.7
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	3	33.5	65.0	0.0	1.5	0.0	0.0	0.0	0.0	1.5	0.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	4	58.0	35.0	0.0	7.0	0.0	0.0	0.0	0.2	6.8	0.0
----- T O T A L S FOR N -----						154.0	230.0	0.5	15.5	0.0	0.0	0.0	0.2	14.6	0.7
----- AVERAGE FOR N -----						38.5	57.5	0.1	3.9	0.0	0.0	0.0	0.1	3.7	0.2
----- STANDARD DEV. N -----						12.7	14.8	0.2	2.4	0.0	0.0	0.0	0.1	2.6	0.3
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	1	88.0	7.5	0.0	4.5	0.0	0.8	0.0	0.6	2.9	0.2
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	2	93.5	0.0	0.0	6.5	0.0	2.5	0.0	0.3	2.6	1.1
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	3	67.0	17.5	0.0	15.5	0.0	0.8	0.0	1.2	13.5	0.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	4	91.5	2.5	0.0	6.0	0.8	1.5	0.3	0.6	1.0	1.8

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
----- TOTALS FOR Y -----						340.0	27.5	0.0	32.5	0.8	5.6	0.3	2.7	20.0	3.1
----- AVERAGE FOR Y -----						85.0	6.9	0.0	8.1	0.2	1.4	0.1	0.7	5.0	0.8
----- STANDARD DEV. Y -----						10.6	6.7	0.0	4.3	0.3	0.7	0.1	0.3	5.0	0.7
----- TOTALS FOR SHRUB -----						494.0	257.5	0.5	48.0	0.8	5.6	0.3	2.9	34.6	3.8
----- AVERAGE FOR SHRUB -----						61.8	32.2	0.1	6.0	0.1	0.7	0.0	0.4	4.3	0.5
----- STANDARD DEV. SHRUB -----						26.0	27.8	0.2	4.1	0.3	0.9	0.1	0.4	4.0	0.6
----- TOTALS FOR LOWER OVERBURDEN -----						960.0	520.0	2.5	117.5	4.8	8.2	0.3	9.8	53.7	40.7
----- AVERAGE FOR LOWER OVERBURDEN -----						60.0	32.5	0.2	7.3	0.3	0.5	0.0	0.6	3.4	2.5
----- STANDARD DEV. LOWER OVERBURDEN -----						23.6	27.0	0.2	5.8	0.7	0.7	0.1	1.0	3.1	4.6
UPPER OVERBURDEN	GRASS	BROADCAST	Y	N	1	47.5	37.0	0.5	15.0	0.0	0.0	0.0	0.0	7.9	7.1
UPPER OVERBURDEN	GRASS	BROADCAST	Y	N	2	34.0	52.5	0.0	13.5	0.0	0.0	0.0	2.2	11.3	0.0
----- TOTALS FOR N -----						81.5	89.5	0.5	28.5	0.0	0.0	0.0	2.2	19.2	7.1
----- AVERAGE FOR N -----						40.8	44.8	0.3	14.3	0.0	0.0	0.0	1.1	9.6	3.5
----- STANDARD DEV. N -----						6.8	7.8	0.3	0.8	0.0	0.0	0.0	1.1	1.7	3.6
UPPER OVERBURDEN	GRASS	BROADCAST	Y	Y	1	63.5	30.0	0.0	6.5	0.0	0.3	0.0	0.3	3.9	2.0
UPPER OVERBURDEN	GRASS	BROADCAST	Y	Y	2	59.5	25.0	1.5	14.0	0.0	0.1	0.0	0.3	0.8	12.8
----- TOTALS FOR Y -----						123.0	55.0	1.5	20.5	0.0	0.4	0.0	0.6	4.7	14.8
----- AVERAGE FOR Y -----						61.5	27.5	0.8	10.3	0.0	0.2	0.0	0.3	2.4	7.4
----- STANDARD DEV. Y -----						2.0	2.5	0.8	3.8	0.0	0.1	0.0	0.0	1.6	5.4
----- TOTALS FOR GRASS -----						204.5	144.5	2.0	49.0	0.0	0.4	0.0	2.8	23.9	21.9
----- AVERAGE FOR GRASS -----						51.1	36.1	0.5	12.3	0.0	0.1	0.0	0.7	6.0	5.5
----- STANDARD DEV. GRASS -----						11.5	10.4	0.6	3.4	0.0	0.1	0.0	0.9	4.0	5.0
UPPER OVERBURDEN	SHRUB	BROADCAST	Y	N	1	32.0	55.0	0.0	13.0	0.0	0.0	0.0	0.2	10.5	2.3
UPPER OVERBURDEN	SHRUB	BROADCAST	Y	N	2	33.5	57.5	0.0	9.0	0.0	0.0	0.0	0.0	8.8	0.2

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER: BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
-----TOTALS FOR N															
						65.5	112.5	0.0	22.0	0.0	0.0	0.0	0.2	19.3	2.5
----- AVERAGE FOR N															
						32.8	56.3	0.0	11.0	0.0	0.0	0.0	0.1	9.7	1.3
----- STANDARD DEV. N															
						0.8	1.3	0.0	2.0	0.0	0.0	0.0	0.1	0.9	1.1
UPPER OVERBURDEN	SHRUB	BROADCAST	Y	Y	1	28.5	52.5	0.0	19.0	0.0	0.0	0.0	0.5	16.6	1.9
UPPER OVERBURDEN	SHRUB	BROADCAST	Y	Y	2	70.0	10.0	0.0	20.0	0.0	1.7	0.0	0.4	11.7	6.2
-----TOTALS FOR Y															
						98.5	62.5	0.0	39.0	0.0	1.7	0.0	0.9	28.3	8.1
----- AVERAGE FOR Y															
						49.3	31.3	0.0	19.5	0.0	0.9	0.0	0.5	14.2	4.0
----- STANDARD DEV. Y															
						20.8	21.3	0.0	0.5	0.0	0.9	0.0	0.1	2.5	2.2
-----TOTALS FOR SHRUB															
						164.0	175.0	0.0	61.0	0.0	1.7	0.0	1.1	47.6	10.6
----- AVERAGE FOR SHRUB															
						41.0	43.8	0.0	15.3	0.0	0.4	0.0	0.3	11.9	2.7
----- STANDARD DEV. SHRUB															
						16.8	19.6	0.0	4.5	0.0	0.7	0.0	0.2	2.9	2.2
-----TOTALS FOR UPPER OVERBURDEN															
						368.5	319.5	2.0	110.0	0.0	2.1	0.0	3.9	71.5	32.5
----- AVERAGE FOR UPPER OVERBURDEN															
						46.1	39.9	0.3	13.8	0.0	0.3	0.0	0.5	8.9	4.1
----- STANDARD DEV. UPPER OVERBURDEN															
						15.3	16.1	0.5	4.2	0.0	0.6	0.0	0.7	4.6	4.1
----------GRAND TOTALS----------															
						*28.5	839.5	4.5	227.5	4.8	10.3	0.3	13.7	125.2	73.2
----------REPORT AVER.----------															
						55.4	35.0	0.2	9.5	0.2	0.4	0.0	0.6	5.2	3.0
----------REPORT STANDARD DEVIATION----------															
						22.2	24.2	0.3	6.1	0.6	0.7	0.1	0.9	4.5	4.5

OVERBURDEN

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	1															
SEEDED	0.5	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.5		1.0	2.5
UNSEEDED														0.0	0.0	0.0	0.0	65.5	1.0	66.5
TOTAL														0.0	0.0	0.0	1.5	65.5	2.0	69.0
UPPER OVERBURDEN	SHRUB	BROADCAST	N	N	2															
SEEDED	0.0	6.0	1.0	0.0	0.5	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0		2.5		6.0		1.5	10.0
UNSEEDED														0.0	0.0	0.0	0.0	24.5	0.5	25.0
TOTAL														0.0	2.5	0.0	6.0	24.5	2.0	35.0
----- TOTALS FOR N -----																				
SEEDED	0.5	7.0	2.0	0.0	0.5	0.0	0.0	2.0	0.0	0.0	0.5	0.0	0.0		2.5		7.5		2.5	12.5
UNSEEDED														0.0	0.0	0.0	0.0	90.0	1.5	91.5
TOTAL														0.0	2.5	0.0	7.5	90.0	4.0	104.0
----- AVERAGE FOR N -----																				
SEEDED	0.3	3.5	1.0	0.0	0.3	0.0	0.0	1.0	0.0	0.0	0.3	0.0	0.0		1.3		3.8		1.3	6.3
UNSEEDED														0.0	0.0	0.0	0.0	45.0	0.8	45.8
TOTAL														0.0	1.3	0.0	3.8	45.0	2.0	52.0
----- STANDARD DEV. N -----																				
SEEDED	0.3	2.5	0.0	0.0	0.3	0.0	0.0	1.0	0.0	0.0	0.3	0.0	0.0		1.3		2.3		0.3	3.8
UNSEEDED														0.0	0.0	0.0	0.0	20.5	0.3	20.8
TOTAL														0.0	1.3	0.0	2.3	20.5	0.0	17.0
LOWER OVERBURDEN	SHRUB	BROADCAST	Y	N	1															
SEEDED	1.0	2.0	2.5	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.0		3.0		2.5	6.5
UNSEEDED														0.0	0.0	0.0	0.0	34.5	1.0	35.5
TOTAL														0.0	1.0	0.0	3.0	34.5	3.5	42.0
UPPER OVERBURDEN	SHRUB	BROADCAST	Y	N	2															
SEEDED	1.0	2.5	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.0		3.5		1.0	5.5
UNSEEDED														0.0	0.0	0.0	0.0	23.5	2.0	25.5
TOTAL														0.0	1.0	0.0	3.5	23.5	3.0	31.0
----- TOTALS FOR Y -----																				
SEEDED	2.0	4.5	3.5	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0		2.0		6.5		3.5	12.0
UNSEEDED														0.0	0.0	0.0	0.0	58.0	3.0	61.0
TOTAL														0.0	2.0	0.0	6.5	58.0	6.5	73.0
----- AVERAGE FOR Y -----																				
SEEDED	1.0	2.3	1.8	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.0		3.3		1.8	6.0
UNSEEDED														0.0	0.0	0.0	0.0	29.0	1.5	30.5
TOTAL														0.0	1.0	0.0	3.3	29.0	3.3	36.5
----- STANDARD DEV. Y -----																				
SEEDED	0.0	0.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.3		0.8	0.5
UNSEEDED														0.0	0.0	0.0	0.0	5.5	0.5	5.0
TOTAL														0.0	0.0	0.0	0.3	5.5	0.3	5.5

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS															
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
----- T O T A L S FOR BROADCAST -----																				
SEEDED	2.5	11.5	5.5	0.0	0.5	0.0	0.0	4.0	0.0	0.0	0.5	0.0	0.0		4.5		14.0		6.0	24.5
UNSEEDED														0.0	0.0	0.0	0.0	148.0	4.5	152.5
TOTAL														0.0	4.5	0.0	14.0	148.0	10.5	177.0
----- AVERAGE FOR BROADCAST -----																				
SEEDED	0.6	2.9	1.4	0.0	0.1	0.0	0.0	1.0	0.0	0.0	0.1	0.0	0.0		1.1		3.5		1.5	6.1
UNSEEDED														0.0	0.0	0.0	0.0	37.0	1.1	38.1
TOTAL														0.0	1.1	0.0	3.5	37.0	2.6	44.3
----- STANDARD DEV. BROADCAST -----																				
SEEDED	0.4	1.9	0.6	0.0	0.2	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0		0.9		1.6		0.6	2.7
UNSEEDED														0.0	0.0	0.0	0.0	17.0	0.5	16.9
TOTAL														0.0	0.9	0.0	1.6	17.0	0.6	14.8
LOWER OVERBURDEN GRASS DRILL N N 1																				
SEEDED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
UNSEEDED														0.0	0.0	0.0	6.0	46.0	9.5	61.5
TOTAL														0.0	0.0	0.0	6.0	46.0	9.5	61.5
LOWER OVERBURDEN SHRUB DRILL N N 2																				
SEEDED	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.5		0.5	1.0
UNSEEDED														0.0	0.0	0.0	0.0	110.0	3.5	113.5
TOTAL														0.0	0.0	0.0	0.5	110.0	4.0	114.5
UPPER OVERBURDEN GRASS DRILL N N 3																				
SEEDED	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.5		0.0	2.5
UNSEEDED														0.0	0.0	0.0	0.5	15.0	8.0	23.5
TOTAL														0.0	0.0	0.0	3.0	15.0	8.0	26.0
UPPER OVERBURDEN SHRUB DRILL N N 4																				
SEEDED	0.0	8.0	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.5		8.0		0.5	9.0
UNSEEDED														0.0	0.0	0.0	0.0	18.0	0.0	18.0
TOTAL														0.0	0.5	0.0	8.0	18.0	0.5	27.0
----- T O T A L S FOR N -----																				
SEEDED	0.5	10.5	1.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.5		11.0		1.0	12.5
UNSEEDED														0.0	0.0	0.0	6.5	189.0	21.0	216.5
TOTAL														0.0	0.5	0.0	17.5	189.0	22.0	229.0
----- AVERAGE FOR N -----																				
SEEDED	0.1	2.6	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.1		2.8		0.3	3.1
UNSEEDED														0.0	0.0	0.0	1.6	47.3	5.3	54.1
TOTAL														0.0	0.1	0.0	4.4	47.3	5.5	57.3
----- STANDARD DEV. N -----																				
SEEDED	0.2	3.3	0.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.2		3.2		0.3	3.5
UNSEEDED														0.0	0.0	0.0	2.5	38.2	3.8	38.2
TOTAL														0.0	0.2	0.0	2.9	38.2	3.5	36.0

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPNU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER OVERBURDEN	GRASS	DRILL	Y	N	1															
SEEDED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
UNSEEDED														0.0	0.0	0.0	0.0	16.0	0.0	16.0
TOTAL														0.0	0.0	0.0	0.0	16.0	0.0	16.0
LOWER OVERBURDEN	SHRUB	DRILL	Y	N	2															
SEEDED	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.5	0.5
UNSEEDED														0.0	0.0	0.0	0.0	47.0	0.0	47.0
TOTAL														0.0	0.0	0.0	0.0	47.0	0.5	47.5
UPPER OVERBURDEN	GRASS	DRILL	Y	N	3															
SEEDED	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.5		0.0	1.5
UNSEEDED														0.0	0.0	0.0	0.0	14.5	2.0	16.5
TOTAL														0.0	0.0	0.0	1.5	14.5	2.0	18.0
UPPER OVERBURDEN	SHRUB	DRILL	Y	N	4															
SEEDED	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.5		0.0	7.5
UNSEEDED														0.0	0.0	0.0	0.0	24.0	0.0	24.0
TOTAL														0.0	0.0	0.0	7.5	24.0	0.0	31.5
- - - - - T O T A L S FOR Y - - - - -																				
SEEDED	0.0	9.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		9.0		0.5	9.5
UNSEEDED														0.0	0.0	0.0	0.0	101.5	2.0	103.5
TOTAL														0.0	0.0	0.0	9.0	101.5	2.5	113.0
- - - - - AVERAGE FOR Y - - - - -																				
SEEDED	0.0	2.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.3		0.1	2.4
UNSEEDED														0.0	0.0	0.0	0.0	25.4	0.5	25.9
TOTAL														0.0	0.0	0.0	2.3	25.4	0.6	28.3
- - - - - STANDARD DEV. Y - - - - -																				
SEEDED	0.0	3.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.1		0.2	3.0
UNSEEDED														0.0	0.0	0.0	0.0	13.0	0.9	12.6
TOTAL														0.0	0.0	0.0	3.1	13.0	0.8	12.6
- - - - - T O T A L S FOR DRILL - - - - -																				
SEEDED	0.5	19.5	1.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.5		20.0		1.5	22.0
UNSEEDED														0.0	0.0	0.0	6.5	290.5	23.0	320.0
TOTAL														0.0	0.5	0.0	26.5	290.5	24.5	342.0
- - - - - AVERAGE FOR DRILL - - - - -																				
SEEDED	0.1	2.4	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.1		2.5		0.2	2.8
UNSEEDED														0.0	0.0	0.0	0.8	36.3	2.9	40.0
TOTAL														0.0	0.1	0.0	3.3	36.3	3.1	42.8
- - - - - STANDARD DEV. DRILL - - - - -																				
SEEDED	0.2	3.2	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.2		3.1		0.2	3.3
UNSEEDED														0.0	0.0	0.0	2.0	30.6	3.6	31.7
TOTAL														0.0	0.2	0.0	3.2	30.6	3.5	30.6

OVERBURDEN

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPNU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
GRAND TOTALS																				
SEEDED	3.0	31.0	7.0	0.0	0.5	0.0	0.0	4.5	0.0	0.0	0.5	0.0	0.0		5.0		34.0		7.5	46.5
UNSEEDED														0.0	0.0	0.0	6.5	438.5	27.5	472.5
TOTAL														0.0	5.0	0.0	40.5	438.5	35.0	519.0
REPORT AVER.																				
SEEDED	0.3	2.6	0.6	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0		0.4		2.8		0.6	3.9
UNSEEDED														0.0	0.0	0.0	0.5	36.5	2.3	39.4
TOTAL														0.0	0.4	0.0	3.4	36.5	2.9	43.3
REPORT STANDARD DEVIATION																				
SEEDED	0.4	2.8	0.7	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.0		0.7		2.8		0.7	3.5
UNSEEDED														0.0	0.0	0.0	1.7	26.8	3.1	27.7
TOTAL														0.0	0.7	0.0	2.7	26.8	2.9	26.4

12-05-83

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	1															
SEEDED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
UNSEEDED														0.0	0.0	0.0	0.0	15.0	0.0	15.0
TOTAL														0.0	0.0	0.0	0.0	15.0	0.0	15.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	2															
SEEDED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
UNSEEDED														0.0	0.0	0.0	0.0	9.0	0.0	9.0
TOTAL														0.0	0.0	0.0	0.0	9.0	0.0	9.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	3															
SEEDED	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		2.0		0.0	2.0
UNSEEDED														0.0	0.0	0.0	0.0	30.0	0.0	30.0
TOTAL														0.0	0.0	0.0	2.0	30.0	0.0	32.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	N	4															
SEEDED	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.0		0.0	3.0
UNSEEDED														0.0	0.0	0.0	0.0	45.0	0.0	45.0
TOTAL														0.0	0.0	0.0	3.0	45.0	0.0	48.0
----- TOTALS FOR N -----																				
SEEDED	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		5.0		0.0	5.0
UNSEEDED														0.0	0.0	0.0	0.0	99.0	0.0	99.0
TOTAL														0.0	0.0	0.0	5.0	99.0	0.0	104.0
----- AVERAGE FOR N -----																				
SEEDED	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.3		0.0	1.3
UNSEEDED														0.0	0.0	0.0	0.0	24.8	0.0	24.8
TOTAL														0.0	0.0	0.0	1.3	24.8	0.0	26.0
----- STANDARD DEV. N -----																				
SEEDED	0.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		1.3		0.0	1.3
UNSEEDED														0.0	0.0	0.0	0.0	14.0	0.0	14.0
TOTAL														0.0	0.0	0.0	1.3	14.0	0.0	15.2
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	1															
SEEDED	1.0	9.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		10.0		2.0	12.0
UNSEEDED														0.0	0.0	0.0	0.0	18.0	0.0	18.0
TOTAL														0.0	0.0	0.0	10.0	18.0	2.0	30.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	2															
SEEDED	1.0	7.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		8.0		5.0	13.0
UNSEEDED														0.0	0.0	0.0	0.0	12.0	0.0	12.0
TOTAL														0.0	0.0	0.0	8.0	12.0	5.0	25.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	3															
SEEDED	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		13.0		0.0	13.0
UNSEEDED														0.0	0.0	0.0	0.0	16.0	0.0	16.0
TOTAL														0.0	0.0	0.0	13.0	16.0	0.0	29.0
LOWER OVERBURDEN	SHRUB	BROADCAST	N	Y	4															
SEEDED	4.0	23.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		27.0		7.0	34.0
UNSEEDED														1.0	0.0	1.0	0.0	26.0	0.0	28.0
TOTAL														1.0	0.0	1.0	27.0	26.0	7.0	62.0

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL SEED MIX SEED METH FERT WATER HARVEST REPS

SOIL	AGINE	ORHY	ASCI	LILE	SPMU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
----- T O T A L S FOR Y -----																				
SEEDED	6.0	52.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		58.0		14.0	72.0
UNSEEDED														1.0	0.0	1.0	0.0	72.0	0.0	74.0
TOTAL														1.0	0.0	1.0	58.0	72.0	14.0	146.0
----- AVERAGE FOR Y -----																				
SEEDED	1.5	13.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		14.5		3.5	18.0
UNSEEDED														0.3	0.0	0.3	0.0	18.0	0.0	18.5
TOTAL														0.3	0.0	0.3	14.5	18.0	3.5	36.5
----- STANDARD DEV. Y -----																				
SEEDED	1.5	6.2	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.4		2.7	9.2
UNSEEDED														0.4	0.0	0.4	0.0	5.1	0.0	5.9
TOTAL														0.4	0.0	0.4	7.4	5.1	2.7	14.8
----- T O T A L S FOR LOWER OVERBURDEN -----																				
SEEDED	9.0	54.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		63.0		14.0	77.0
UNSEEDED														1.0	0.0	1.0	0.0	171.0	0.0	173.0
TOTAL														1.0	0.0	1.0	63.0	171.0	14.0	250.0
----- AVERAGE FOR LOWER OVERBURDEN -----																				
SEEDED	1.1	6.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.9		1.8	9.6
UNSEEDED														0.1	0.0	0.1	0.0	21.4	0.0	21.6
TOTAL														0.1	0.0	0.1	7.9	21.4	1.8	31.3
----- STANDARD DEV. LOWER OVERBURDEN -----																				
SEEDED	1.3	7.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		8.5		2.6	10.7
UNSEEDED														0.3	0.0	0.3	0.0	11.0	0.0	11.2
TOTAL														0.3	0.0	0.3	8.5	11.0	2.6	15.9
UPPER OVERBURDEN SHRUB BROADCAST Y N 1																				
SEEDED	0.0	7.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.0		1.0	8.0
UNSEEDED														0.0	0.0	0.0	0.0	24.0	2.0	26.0
TOTAL														0.0	0.0	0.0	7.0	24.0	3.0	34.0
UPPER OVERBURDEN SHRUB BROADCAST Y N 2																				
SEEDED	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		2.0	2.0
UNSEEDED														0.0	0.0	0.0	0.0	40.0	0.0	40.0
TOTAL														0.0	0.0	0.0	0.0	40.0	2.0	42.0
----- T O T A L S FOR N -----																				
SEEDED	0.0	7.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		7.0		3.0	10.0
UNSEEDED														0.0	0.0	0.0	0.0	64.0	2.0	66.0
TOTAL														0.0	0.0	0.0	7.0	64.0	5.0	76.0
----- AVERAGE FOR N -----																				
SEEDED	0.0	3.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.5		1.5	5.0
UNSEEDED														0.0	0.0	0.0	0.0	32.0	1.0	33.0
TOTAL														0.0	0.0	0.0	3.5	32.0	2.5	38.0

12-05-83

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
	AGINE	ORHY	ASCI	LILE	SPNU	ARTR	ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
STANDARD DEV. N																				
SEEDED	0.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		3.5		0.5	3.0
UNSEEDED														0.0	0.0	0.0	0.0	0.0	1.0	7.0
TOTAL														0.0	0.0	0.0	3.5	0.0	0.5	4.0
UPPER OVERBURDEN		SHRUB	BROADCAST	Y		Y		1												
SEEDED	0.0	17.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		17.0		3.0	20.0
UNSEEDED														0.0	0.0	0.0	0.0	34.0	0.0	34.0
TOTAL														0.0	0.0	0.0	17.0	34.0	3.0	54.0
UPPER OVERBURDEN		SHRUB	BROADCAST	Y		Y		2												
SEEDED	0.0	8.0	1.0	1.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0		3.0		8.0		2.0	13.0
UNSEEDED														0.0	0.0	0.0	0.0	20.0	2.0	22.0
TOTAL														0.0	3.0	0.0	8.0	20.0	4.0	35.0
TOTALS FOR Y																				
SEEDED	0.0	25.0	4.0	1.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0		3.0		25.0		5.0	33.0
UNSEEDED														0.0	0.0	0.0	0.0	54.0	2.0	56.0
TOTAL														0.0	3.0	0.0	25.0	54.0	7.0	89.0
AVERAGE FOR Y																				
SEEDED	0.0	12.5	2.0	0.5	0.0	0.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.5		12.5		2.5	16.5
UNSEEDED														0.0	0.0	0.0	0.0	27.0	1.0	28.0
TOTAL														0.0	1.5	0.0	12.5	27.0	3.5	44.5
STANDARD DEV. Y																				
SEEDED	0.0	4.5	1.0	0.5	0.0	0.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0		1.5		4.5		0.5	3.5
UNSEEDED														0.0	0.0	0.0	0.0	7.0	1.0	6.0
TOTAL														0.0	1.5	0.0	4.5	7.0	0.5	9.5
TOTALS FOR UPPER OVERBURDEN																				
SEEDED	0.0	32.0	7.0	1.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0		3.0		32.0		8.0	43.0
UNSEEDED														0.0	0.0	0.0	0.0	118.0	4.0	122.0
TOTAL														0.0	3.0	0.0	32.0	118.0	12.0	165.0
AVERAGE FOR UPPER OVERBURDEN																				
SEEDED	0.0	8.0	1.8	0.3	0.0	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.8		8.0		2.0	10.8
UNSEEDED														0.0	0.0	0.0	0.0	29.5	1.0	30.5
TOTAL														0.0	0.8	0.0	8.0	29.5	3.0	41.3
STANDARD DEV. UPPER OVERBURDEN																				
SEEDED	0.0	6.0	0.8	0.4	0.0	0.4	0.0	0.9	0.0	0.0	0.0	0.0	0.0		1.3		6.0		0.7	6.6
UNSEEDED														0.0	0.0	0.0	0.0	7.9	1.0	7.0
TOTAL														0.0	1.3	0.0	6.0	7.9	0.7	8.0

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	AGINE	SEED MIX ORHY	SEED METH ASCI	LILE	FERT SPNU	WATER HARVEST ARTR	REPS ATCA	CELA	CEMO	CHNA	KOPR	PUTR	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
GRAND TOTALS																				
SEEDED	9.0	86.0	21.0	1.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0		3.0		95.0		22.0	120.0
UNSEEDED														1.0	0.0	1.0	0.0	289.0	4.0	295.0
TOTAL														1.0	3.0	1.0	95.0	289.0	26.0	415.0
REPORT AVER.																				
SEEDED	0.8	7.2	1.8	0.1	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.3		7.9		1.8	10.0
UNSEEDED														0.1	0.0	0.1	0.0	24.1	0.3	24.6
TOTAL														0.1	0.3	0.1	7.9	24.1	2.2	34.6
REPORT STANDARD DEVIATION																				
SEEDED	1.2	7.2	2.2	0.3	0.0	0.3	0.0	0.6	0.0	0.0	0.0	0.0	0.0		0.8		7.8		2.2	9.5
UNSEEDED														0.3	0.0	0.3	0.0	10.8	0.7	10.8
TOTAL														0.3	0.8	0.3	7.8	10.8	2.2	14.6

12-05-83

OVERBURDEN

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER OVERBURDEN	GRASS	DRILL	N	N	1																	
	SEEDED					1.5	3.0	0.0	0.0	1.5	0.0	0.0	7.5	2.0	0.0				6.0		9.5	15.5
	UNSEEDED															0.0	0.0	0.0	0.0	46.0	0.0	46.0
	TOTAL															0.0	0.0	0.0	6.0	46.0	9.5	61.5
UPPER OVERBURDEN	GRASS	DRILL	N	N	2																	
	SEEDED					0.0	0.5	0.0	0.0	0.0	0.0	2.5	5.5	2.5	0.0				3.0		8.0	11.0
	UNSEEDED															0.0	0.0	0.0	0.0	15.0	0.0	15.0
	TOTAL															0.0	0.0	0.0	3.0	15.0	8.0	26.0
----- TOTALS FOR N -----																						
	SEEDED					1.5	3.5	0.0	0.0	1.5	0.0	2.5	13.0	4.5	0.0				9.0		17.5	26.5
	UNSEEDED															0.0	0.0	0.0	0.0	61.0	0.0	61.0
	TOTAL															0.0	0.0	0.0	9.0	61.0	17.5	87.5
----- AVERAGE FOR N -----																						
	SEEDED					0.8	1.8	0.0	0.0	0.8	0.0	1.3	6.5	2.3	0.0				4.5		8.8	13.3
	UNSEEDED															0.0	0.0	0.0	0.0	30.5	0.0	30.5
	TOTAL															0.0	0.0	0.0	4.5	30.5	8.8	43.8
----- STANDARD DEV. N -----																						
	SEEDED					0.8	1.3	0.0	0.0	0.8	0.0	1.3	1.0	0.3	0.0				1.5		0.8	2.3
	UNSEEDED															0.0	0.0	0.0	0.0	15.5	0.0	15.5
	TOTAL															0.0	0.0	0.0	1.5	15.5	0.8	17.8
LOWER OVERBURDEN	GRASS	DRILL	Y	N	1																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0		0.0	0.0
	UNSEEDED															0.0	0.0	0.0	0.0	16.0	0.0	16.0
	TOTAL															0.0	0.0	0.0	0.0	16.0	0.0	16.0
UPPER OVERBURDEN	GRASS	DRILL	Y	N	2																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0				1.5		1.5	3.0
	UNSEEDED															0.0	0.0	0.0	0.0	14.5	0.5	15.0
	TOTAL															0.0	0.0	0.0	1.5	14.5	2.0	18.0
----- TOTALS FOR Y -----																						
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0				1.5		1.5	3.0
	UNSEEDED															0.0	0.0	0.0	0.0	30.5	0.5	31.0
	TOTAL															0.0	0.0	0.0	1.5	30.5	2.0	34.0
----- AVERAGE FOR Y -----																						
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0				0.8		0.8	1.5
	UNSEEDED															0.0	0.0	0.0	0.0	15.3	0.3	15.5
	TOTAL															0.0	0.0	0.0	0.8	15.3	1.0	17.0
----- STANDARD DEV. Y -----																						
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0				0.8		0.8	1.5
	UNSEEDED															0.0	0.0	0.0	0.0	0.8	0.3	0.5
	TOTAL															0.0	0.0	0.0	0.8	0.8	1.0	1.0

OVERBURDEN

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS														
		AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	DRNY	MESA	MEDF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
GRAND TOTALS																		
	SEEDED	1.5	3.5	0.0	0.0	1.5	0.0	4.0	14.5	4.5	0.0				10.5		19.0	29.5
	UNSEEDED											0.0	0.0	0.0	0.0	91.5	0.5	92.0
	TOTAL											0.0	0.0	0.0	10.5	91.5	19.5	121.5
REPORT AVER.																		
	SEEDED	0.4	0.9	0.0	0.0	0.4	0.0	1.0	3.6	1.1	0.0				2.6		4.8	7.4
	UNSEEDED											0.0	0.0	0.0	0.0	22.9	0.1	23.0
	TOTAL											0.0	0.0	0.0	2.6	22.9	4.9	30.4
REPORT STANDARD DEVIATION																		
	SEEDED	0.6	1.2	0.0	0.0	0.6	0.0	1.1	3.0	1.1	0.0				2.2		4.1	6.2
	UNSEEDED											0.0	0.0	0.0	0.0	13.4	0.2	13.3
	TOTAL											0.0	0.0	0.0	2.2	13.4	4.0	18.4

12-05-83

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	1																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0		0.0	0.0
	UNSEEDED															0.0	0.0	0.0	0.0	31.0	0.0	31.0
	TOTAL															0.0	0.0	0.0	0.0	31.0	0.0	31.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	2																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0		0.0	0.0
	UNSEEDED															0.0	0.0	0.0	0.0	14.0	0.0	14.0
	TOTAL															0.0	0.0	0.0	0.0	14.0	0.0	14.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	3																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0				0.0		1.0	1.0
	UNSEEDED															0.0	0.0	0.0	0.0	23.0	0.0	23.0
	TOTAL															0.0	0.0	0.0	0.0	23.0	1.0	24.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	N	4																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0		0.0	0.0
	UNSEEDED															0.0	0.0	0.0	0.0	24.0	0.0	24.0
	TOTAL															0.0	0.0	0.0	0.0	24.0	0.0	24.0
----- TOTALS FOR N -----																						
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0				0.0		1.0	1.0
	UNSEEDED															0.0	0.0	0.0	0.0	92.0	0.0	92.0
	TOTAL															0.0	0.0	0.0	0.0	92.0	1.0	93.0
----- AVERAGE FOR N -----																						
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0				0.0		0.3	0.3
	UNSEEDED															0.0	0.0	0.0	0.0	23.0	0.0	23.0
	TOTAL															0.0	0.0	0.0	0.0	23.0	0.3	23.3
----- STANDARD DEV. N -----																						
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0				0.0		0.4	0.4
	UNSEEDED															0.0	0.0	0.0	0.0	6.0	0.0	6.0
	TOTAL															0.0	0.0	0.0	0.0	6.0	0.4	6.1
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	1																	
	SEEDED					0.0	0.0	2.0	0.0	1.0	0.0	1.0	8.0	0.0	1.0				5.0		8.0	13.0
	UNSEEDED															0.0	2.0	0.0	0.0	7.0	0.0	9.0
	TOTAL															0.0	2.0	0.0	5.0	7.0	8.0	22.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	2																	
	SEEDED					1.0	1.0	2.0	0.0	1.0	0.0	1.0	5.0	1.0	7.0				13.0		6.0	19.0
	UNSEEDED															0.0	1.0	0.0	0.0	20.0	0.0	21.0
	TOTAL															0.0	1.0	0.0	13.0	20.0	6.0	40.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	3																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	3.0	11.0	2.0	11.0				14.0		13.0	27.0
	UNSEEDED															0.0	1.0	0.0	0.0	5.0	0.0	6.0
	TOTAL															0.0	1.0	0.0	14.0	5.0	13.0	33.0
LOWER OVERBURDEN	GRASS	BROADCAST	N	Y	4																	
	SEEDED					2.0	2.0	4.0	1.0	0.0	0.0	2.0	3.0	1.0	19.0				30.0		4.0	34.0
	UNSEEDED															0.0	0.0	0.0	0.0	1.0	0.0	1.0
	TOTAL															0.0	0.0	0.0	30.0	1.0	4.0	35.0

12-05-83

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
-----TOTALS FOR Y-----																						
	SEEDED					3.0	3.0	8.0	1.0	2.0	0.0	7.0	27.0	4.0	38.0				62.0		31.0	93.0
	UNSEEDED																					
	TOTAL															0.0	4.0	0.0	0.0	33.0	0.0	37.0
																0.0	4.0	0.0	62.0	33.0	31.0	130.0
----- AVERAGE FOR Y-----																						
	SEEDED					0.8	0.8	2.0	0.3	0.5	0.0	1.8	6.8	1.0	9.5				15.5		7.8	23.3
	UNSEEDED																					
	TOTAL															0.0	1.0	0.0	0.0	8.3	0.0	9.3
																0.0	1.0	0.0	15.5	8.3	7.8	32.5
----- STANDARD DEV. Y-----																						
	SEEDED					0.8	0.8	1.4	0.4	0.5	0.0	0.8	3.0	0.7	6.5				9.1		3.3	7.9
	UNSEEDED																					
	TOTAL															0.0	0.7	0.0	0.0	7.1	0.0	7.4
																0.0	0.7	0.0	9.1	7.1	3.3	6.6
-----TOTALS FOR LOWER OVERBURDEN-----																						
	SEEDED					3.0	3.0	8.0	1.0	2.0	0.0	7.0	27.0	5.0	38.0				62.0		32.0	94.0
	UNSEEDED																					
	TOTAL															0.0	4.0	0.0	0.0	125.0	0.0	129.0
																0.0	4.0	0.0	62.0	125.0	32.0	223.0
----- AVERAGE FOR LOWER OVERBURDEN-----																						
	SEEDED					0.4	0.4	1.0	0.1	0.3	0.0	0.9	3.4	0.6	4.8				7.8		4.0	11.8
	UNSEEDED																					
	TOTAL															0.0	0.5	0.0	0.0	15.6	0.0	16.1
																0.0	0.5	0.0	7.8	15.6	4.0	27.9
----- STANDARD DEV. LOWER OVERBURDEN-----																						
	SEEDED					0.7	0.7	1.4	0.3	0.4	0.0	1.1	4.0	0.7	6.6				10.1		4.4	12.8
	UNSEEDED																					
	TOTAL															0.0	0.7	0.0	0.0	9.9	0.0	9.6
																0.0	0.7	0.0	10.1	9.9	4.4	7.8
UPPER OVERBURDEN	GRASS	BROADCAST	Y	N	1																	
	SEEDED					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0				0.0		2.0	2.0
	UNSEEDED																					
	TOTAL															0.0	0.0	0.0	0.0	19.0	0.0	19.0
																0.0	0.0	0.0	0.0	19.0	2.0	21.0
UPPER OVERBURDEN	GRASS	BROADCAST	Y	N	2																	
	SEEDED					0.0	0.0	2.0	1.0	0.0	0.0	3.0	0.0	0.0	0.0				6.0		0.0	6.0
	UNSEEDED																					
	TOTAL															0.0	0.0	0.0	0.0	13.0	0.0	13.0
																0.0	0.0	0.0	6.0	13.0	0.0	19.0
-----TOTALS FOR N-----																						
	SEEDED					0.0	0.0	2.0	1.0	0.0	0.0	3.0	0.0	2.0	0.0				6.0		2.0	8.0
	UNSEEDED																					
	TOTAL															0.0	0.0	0.0	0.0	32.0	0.0	32.0
																0.0	0.0	0.0	6.0	32.0	2.0	40.0
----- AVERAGE FOR N-----																						
	SEEDED					0.0	0.0	1.0	0.5	0.0	0.0	1.5	0.0	1.0	0.0				3.0		1.0	4.0
	UNSEEDED																					
	TOTAL															0.0	0.0	0.0	0.0	16.0	0.0	16.0
																0.0	0.0	0.0	3.0	16.0	1.0	20.0

12-05-83

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEDF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
----- STANDARD DEV. N -----																						
	SEEDED					0.0	0.0	1.0	0.5	0.0	0.0	1.5	0.0	1.0	0.0				3.0		1.0	2.0
	UNSEEDED															0.0	0.0	0.0	0.0	3.0	0.0	3.0
	TOTAL															0.0	0.0	0.0	3.0	3.0	1.0	1.0
UPPER OVERBURDEN	GRASS	BROADCAST	Y	Y	1																	
	SEEDED					0.0	2.0	0.0	0.0	0.0	0.0	10.0	3.0	0.0	0.0				12.0		3.0	15.0
	UNSEEDED															0.0	0.0	0.0	0.0	42.0	0.0	42.0
	TOTAL															0.0	0.0	0.0	12.0	42.0	3.0	57.0
UPPER OVERBURDEN	GRASS	BROADCAST	Y	Y	2																	
	SEEDED					0.0	1.0	2.0	0.0	0.0	0.0	0.0	7.0	1.0	17.0				20.0		8.0	28.0
	UNSEEDED															0.0	0.0	0.0	0.0	19.0	1.0	20.0
	TOTAL															0.0	0.0	0.0	20.0	19.0	9.0	48.0
----- T O T A L S FOR Y -----																						
	SEEDED					0.0	3.0	2.0	0.0	0.0	0.0	10.0	10.0	1.0	17.0				32.0		11.0	43.0
	UNSEEDED															0.0	0.0	0.0	0.0	61.0	1.0	62.0
	TOTAL															0.0	0.0	0.0	32.0	61.0	12.0	105.0
----- AVERAGE FOR Y -----																						
	SEEDED					0.0	1.5	1.0	0.0	0.0	0.0	5.0	5.0	0.5	8.5				16.0		5.5	21.5
	UNSEEDED															0.0	0.0	0.0	0.0	30.5	0.5	31.0
	TOTAL															0.0	0.0	0.0	16.0	30.5	6.0	52.5
----- STANDARD DEV. Y -----																						
	SEEDED					0.0	0.5	1.0	0.0	0.0	0.0	5.0	2.0	0.5	8.5				4.0		2.5	6.5
	UNSEEDED															0.0	0.0	0.0	0.0	11.5	0.5	11.0
	TOTAL															0.0	0.0	0.0	4.0	11.5	3.0	4.5
----- T O T A L S FOR UPPER OVERBURDEN -----																						
	SEEDED					0.0	3.0	4.0	1.0	0.0	0.0	13.0	10.0	3.0	17.0				38.0		13.0	51.0
	UNSEEDED															0.0	0.0	0.0	0.0	93.0	1.0	94.0
	TOTAL															0.0	0.0	0.0	38.0	93.0	14.0	145.0
----- AVERAGE FOR UPPER OVERBURDEN -----																						
	SEEDED					0.0	0.8	1.0	0.3	0.0	0.0	3.3	2.5	0.8	4.3				9.5		3.3	12.8
	UNSEEDED															0.0	0.0	0.0	0.0	23.3	0.3	23.5
	TOTAL															0.0	0.0	0.0	9.5	23.3	3.5	36.3
----- STANDARD DEV. UPPER OVERBURDEN -----																						
	SEEDED					0.0	0.8	1.0	0.4	0.0	0.0	4.1	2.9	0.8	7.4				7.4		2.9	10.0
	UNSEEDED															0.0	0.0	0.0	0.0	11.1	0.4	11.0
	TOTAL															0.0	0.0	0.0	7.4	11.1	3.4	16.6

OVERBURDEN (WATER HARV)

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS													
		AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
GRAND TOTALS																		
	SEEDED	3.0	6.0	12.0	2.0	2.0	0.0	20.0	37.0	8.0	55.0				100.0		45.0	145.0
	UNSEEDED											0.0	4.0	0.0	0.0	218.0	1.0	223.0
	TOTAL											0.0	4.0	0.0	100.0	218.0	46.0	368.0
REPORT AVER.																		
	SEEDED	0.3	0.5	1.0	0.2	0.2	0.0	1.7	3.1	0.7	4.6				8.3		3.8	12.1
	UNSEEDED											0.0	0.3	0.0	0.0	18.2	0.1	18.6
	TOTAL											0.0	0.3	0.0	8.3	18.2	3.8	30.7
REPORT STANDARD DEVIATION																		
	SEEDED	0.6	0.8	1.3	0.4	0.4	0.0	2.7	3.7	0.7	6.9				9.3		4.0	11.9
	UNSEEDED											0.0	0.6	0.0	0.0	10.9	0.3	10.7
	TOTAL											0.0	0.6	0.0	9.3	10.9	4.1	12.2

12-08-83

OVERBURDEN

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TOTAL	ARFR % SURV	ARNO ALIVE	ARNO TOTAL	ARNO % SURV	CEMO ALIVE	CEMO TOTAL	CEMO % SURV	JUSC ALIVE	JUSC TOTAL	JUSC % SURV	ROMO ALIVE	ROMO TOTAL	ROMO % SURV	TOTAL ALIVE	TOTAL TOTAL	TOTAL % SURV
LOWER OVERBURDEN	BASIN NO F 1	5	5	100.0	3	4	75.0	3	4	75.0	4	4	100.0	3	4	75.0	18	21	85.7
	HEIGHT (CM)	53.2			24.3			7.7			15.8			32.7					
UPPER OVERBURDEN	BASIN NO F 2	3	5	60.0	4	4	100.0	3	3	100.0	3	4	75.0	5	5	100.0	18	21	85.7
	HEIGHT (CM)	29.3			7.0			6.3			10.0			11.0					
----- TOTALS FOR NO F -----																			
		8	10	160.0	7	8	175.0	6	7	175.0	7	8	175.0	8	9	175.0	36	42	171.4
	HEIGHT (CM)	82.5			31.3			14.0			25.8			43.7					
----- AVERAGE FOR NO F -----																			
		4	5	80.0	4	4	87.5	3	4	87.5	4	4	87.5	4	5	87.5	18	21	85.7
	HEIGHT (CM)	41.3			15.6			7.0			12.9			21.9					
----- STANDARD DEV. NO F -----																			
		1	0	20.0	1	0	12.5	0	1	12.5	1	0	12.5	1	1	12.5	0	0	0.0
	HEIGHT (CM)	12.0			8.7			0.7			2.9			10.9					
LOWER OVERBURDEN	BASIN FERT 1	4	4	100.0	5	5	100.0	3	5	60.0	5	5	100.0	4	5	80.0	21	24	87.5
	HEIGHT (CM)	38.8			22.8			8.0			11.8			22.0					
UPPER OVERBURDEN	BASIN FERT 2	4	4	100.0	5	5	100.0	1	6	16.7	5	5	100.0	4	4	100.0	19	24	79.2
	HEIGHT (CM)	34.8			16.4			7.0			10.4			20.5					
----- TOTALS FOR FERT -----																			
		8	8	200.0	10	10	200.0	4	11	76.7	10	10	200.0	8	9	180.0	40	48	166.7
	HEIGHT (CM)	73.6			39.2			15.0			22.2			42.5					
----- AVERAGE FOR FERT -----																			
		4	4	100.0	5	5	100.0	2	6	38.4	5	5	100.0	4	5	90.0	20	24	83.3
	HEIGHT (CM)	36.8			19.6			7.5			11.1			21.3					
----- STANDARD DEV. FERT -----																			
		0	0	0.0	0	0	0.0	1	1	21.7	0	0	0.0	0	1	10.0	1	0	4.2
	HEIGHT (CM)	2.0			3.2			0.5			0.7			0.8					
----- TOTALS FOR BASIN -----																			
		16	18	360.0	17	18	375.0	10	18	251.7	17	18	375.0	16	18	355.0	76	90	338.1
	HEIGHT (CM)	156.1			70.5			29.0			48.0			86.2					
----- AVERAGE FOR BASIN -----																			
		4	5	90.0	4	5	93.8	3	5	62.9	4	5	93.8	4	5	88.8	19	23	84.5
	HEIGHT (CM)	39.0			17.6			7.3			12.0			21.6					
----- STANDARD DEV. BASIN -----																			
		1	1	17.3	1	1	10.8	1	1	30.3	1	1	10.8	1	1	11.4	1	2	3.2
	HEIGHT (CM)	8.9			6.8			0.7			2.3			7.7					
LOWER OVERBURDEN	FLAT NO F 1	4	4	100.0	3	4	75.0	3	4	75.0	3	3	100.0	3	6	50.0	16	21	76.2
	HEIGHT (CM)	45.3			15.7			6.0			20.0			22.0					
UPPER OVERBURDEN	FLAT NO F 2	5	5	100.0	4	4	100.0	3	3	100.0	4	4	100.0	4	5	80.0	20	21	95.2
	HEIGHT (CM)	25.2			9.3			4.7			12.3			9.3					

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST		ARFR ALIVE	ARFR TOTAL	ARFR % SURVIVAL	ARNO ALIVE	ARNO TOTAL	ARNO % SURVIVAL	CEMO ALIVE	CEMO TOTAL	CEMO % SURVIVAL	JUSC ALIVE	JUSC TOTAL	JUSC % SURVIVAL	ROMO ALIVE	ROMO TOTAL	ROMO % SURVIVAL	TOTAL ALIVE	TOTAL TOTAL	TOTAL % SURVIVAL
----- TOTALS FOR NO F -----																				
			9	9	200.0	7	8	175.0	6	7	175.0	7	7	200.0	7	11	130.0	36	42	171.4
		HEIGHT (CM)	70.5			25.0			10.7			32.3			31.3					
----- AVERAGE FOR NO F -----																				
			5	5	100.0	4	4	87.5	3	4	87.5	4	4	100.0	4	6	65.0	18	21	85.7
		HEIGHT (CM)	35.3			12.5			5.3			16.1			15.7					
----- STANDARD DEV. NO F -----																				
			1	1	0.0	1	0	12.5	0	1	12.5	1	1	0.0	1	1	15.0	2	0	9.5
		HEIGHT (CM)	10.1			3.2			0.7			3.9			6.4					
LOWER OVERBURDEN	FLAT	FERT 1	6	6	100.0	4	4	100.0	4	5	80.0	6	6	100.0	3	3	100.0	23	24	95.8
		HEIGHT (CM)	41.0			17.5			9.8			13.8			20.7					
UPPER OVERBURDEN	FLAT	FERT 2	4	4	100.0	5	5	100.0	2	6	33.3	5	5	100.0	4	4	100.0	20	24	83.3
		HEIGHT (CM)	30.0			15.8			9.0			13.4			22.3					
----- TOTALS FOR FERT -----																				
			10	10	200.0	9	9	200.0	6	11	113.3	11	11	200.0	7	7	200.0	43	48	179.1
		HEIGHT (CM)	71.0			33.3			18.8			27.2			43.0					
----- AVERAGE FOR FERT -----																				
			5	5	100.0	5	5	100.0	3	6	56.7	6	6	100.0	4	4	100.0	22	24	89.6
		HEIGHT (CM)	35.5			16.6			9.4			13.6			21.5					
----- STANDARD DEV. FERT -----																				
			1	1	0.0	1	1	0.0	1	1	23.4	1	1	0.0	1	1	0.0	2	0	6.3
		HEIGHT (CM)	5.5			0.9			0.4			0.2			0.8					
----- TOTALS FOR FLAT -----																				
			19	19	400.0	16	17	375.0	12	18	288.3	18	18	400.0	14	18	330.0	79	90	350.5
		HEIGHT (CM)	141.5			58.3			29.5			59.5			74.3					
----- AVERAGE FOR FLAT -----																				
			5	5	100.0	4	4	93.8	3	5	72.1	5	5	100.0	4	5	82.5	20	23	87.6
		HEIGHT (CM)	35.4			14.6			7.4			14.9			18.6					
----- STANDARD DEV. FLAT -----																				
			1	1	0.0	1	0	10.8	1	1	24.3	1	1	0.0	1	1	20.5	2	2	8.3
		HEIGHT (CM)	8.1			3.1			2.1			3.0			5.4					
----- GRAND TOTALS -----																				
			35	37	760.0	33	35	750.0	22	36	540.0	35	36	775.0	30	36	685.0	155	180	688.6
		HEIGHT (CM)	297.6			128.8			58.5			107.5			160.5					
----- REPORT AVER. -----																				
			4	5	95.0	4	4	93.8	3	5	67.5	4	5	96.9	4	5	85.6	19	23	86.1
		HEIGHT (CM)	37.2			16.1			7.3			13.4			20.1					
----- REPORT STANDARD DEVIATION -----																				
			1	1	13.2	1	0	10.8	1	1	27.8	1	1	8.3	1	1	16.9	2	2	6.4
		HEIGHT (CM)	8.7			5.5			1.6			3.0			6.8					

12-08-83

OVERBURDEN (W/DOZ.TRENCH)

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ! A L I V E	ARFR ! T O T A L	ARFR ! % S U R V	ARNO ! A L I V E	ARNO ! T O T A L	ARNO ! % S U R V	CEMO ! A L I V E	CEMO ! T O T A L	CEMO ! % S U R V	JUSC ! A L I V E	JUSC ! T O T A L	JUSC ! % S U R V	ROMO ! A L I V E	ROMO ! T O T A L	ROMO ! % S U R V	TOTAL ! A L I V E	TOTAL ! T O T A L	TOTAL ! % S U R V
TOTALS FOR	NO F	9	12	300.0	18	35	204.1	2	11	66.6	14	21	266.7	10	11	366.7	53	90	235.0
	HEIGHT (CM)	133.5			49.2			9.0			68.8			70.8					
AVERAGE FOR	NO F	2	3	75.0	5	9	51.0	1	3	16.6	4	5	66.7	3	3	91.7	13	23	58.8
	HEIGHT (CM)	33.4			12.3			2.3			17.2			17.7					
STANDARD DEV.	NO F	1	0	27.6	2	0	22.2	1	0	16.7	1	0	8.2	1	0	14.4	2	1	9.9
	HEIGHT (CM)	4.0			1.9			2.3			1.9			3.4					
TOTALS FOR	UPPER OVERBURDEN	9	12	300.0	18	35	204.1	2	11	66.6	14	21	266.7	10	11	366.7	53	90	235.0
	HEIGHT (CM)	133.5			49.2			9.0			68.8			70.8					
AVERAGE FOR	UPPER OVERBURDEN	2	3	75.0	5	9	51.0	1	3	16.6	4	5	66.7	3	3	91.7	13	23	58.8
	HEIGHT (CM)	33.4			12.3			2.3			17.2			17.7					
STANDARD DEV.	UPPER OVERBURDEN	1	0	27.6	2	0	22.2	1	0	16.7	1	0	8.2	1	0	14.4	2	1	9.9
	HEIGHT (CM)	4.0			1.9			2.3			1.9			3.4					
GRAND TOTALS		34	48	438.9	42	86	297.9	6	35	99.9	38	53	416.8	25	27	554.2	145	249	350.7
	HEIGHT (CM)	211.1			84.4			24.7			100.6			110.5					
REPORT AVER.		6	8	73.2	7	14	49.6	1	6	16.6	6	9	69.5	4	5	92.4	24	42	58.5
	HEIGHT (CM)	35.2			14.1			4.1			16.8			18.4					
REPORT STANDARD DEVIATION		5	7	23.2	4	8	18.7	1	4	14.4	4	5	8.5	2	3	12.4	16	27	8.1
	HEIGHT (CM)	4.3			3.0			3.3			1.7			3.7					

12-08-83

OVERBURDEN (W/DOZ.TRENCH)

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ATLIVE	ARFR TOTAL	ARFR %SURV	ARNO ATLIVE	ARNO TOTAL	ARNO %SURV	CEMO ATLIVE	CEMO TOTAL	CEMO %SURV	JUSC ATLIVE	JUSC TOTAL	JUSC %SURV	ROMO ATLIVE	ROMO TOTAL	ROMO %SURV	TOTAL ATLIVE	TOTAL TOTAL	TOTAL %SURV
LOWER OVERBURDEN	TRNCH NO F 1	14	18	77.8	10	25	40.0	1	12	8.3	13	16	81.3	7	8	87.5	45	79	57.0
	HEIGHT (CM)	36.9			17.1			9.0			15.2			16.1					
----- TOTALS FOR NO F -----																			
		14	18	77.8	10	25	40.0	1	12	8.3	13	16	81.3	7	8	87.5	45	79	57.0
	HEIGHT (CM)	36.9			17.1			9.0			15.2			16.1					
----- AVERAGE FOR NO F -----																			
		14	18	77.8	10	25	40.0	1	12	8.3	13	16	81.3	7	8	87.5	45	79	57.0
	HEIGHT (CM)	36.9			17.1			9.0			15.2			16.1					
----- STANDARD DEV. NO F -----																			
		0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
	HEIGHT (CM)	0.0			0.0			0.0			0.0			0.0					
LOWER OVERBURDEN	TRNCH FERT 1	11	18	61.1	14	26	53.8	3	12	25.0	11	16	68.8	8	8	100.0	47	80	58.7
	HEIGHT (CM)	40.7			18.1			6.7			16.6			23.6					
----- TOTALS FOR FERT -----																			
		11	18	61.1	14	26	53.8	3	12	25.0	11	16	68.8	8	8	100.0	47	80	58.7
	HEIGHT (CM)	40.7			18.1			6.7			16.6			23.6					
----- AVERAGE FOR FERT -----																			
		11	18	61.1	14	26	53.8	3	12	25.0	11	16	68.8	8	8	100.0	47	80	58.7
	HEIGHT (CM)	40.7			18.1			6.7			16.6			23.6					
----- STANDARD DEV. FERT -----																			
		0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
	HEIGHT (CM)	0.0			0.0			0.0			0.0			0.0					
----- TOTALS FOR LOWER OVERBURDEN -----																			
		25	36	138.9	24	51	93.8	4	24	33.3	24	32	150.1	15	16	187.5	92	159	115.7
	HEIGHT (CM)	77.6			35.2			15.7			31.8			39.7					
----- AVERAGE FOR LOWER OVERBURDEN -----																			
		13	18	69.5	12	26	46.9	2	12	16.6	12	16	75.1	8	8	93.8	46	80	57.9
	HEIGHT (CM)	38.8			17.6			7.8			15.9			19.9					
----- STANDARD DEV. LOWER OVERBURDEN -----																			
		2	0	8.4	2	1	6.9	1	0	8.4	1	0	6.3	1	0	6.3	1	1	0.9
	HEIGHT (CM)	1.9			0.5			1.2			0.7			3.8					
UPPER OVERBURDEN	TRNCH NO F 1	2	3	66.7	3	8	37.5	0	2	0.0	4	6	66.7	2	2	100.0	11	21	52.4
	HEIGHT (CM)	30.5			9.3			0.0			15.0			12.5					
UPPER OVERBURDEN	TRNCH NO F 2	3	3	100.0	4	9	44.4	0	3	0.0	4	5	80.0	3	3	100.0	14	23	60.9
	HEIGHT (CM)	39.7			14.0			0.0			16.8			18.3					
UPPER OVERBURDEN	TRNCH NO F 3	3	3	100.0	8	9	88.9	1	3	33.3	3	5	60.0	2	3	66.7	17	23	73.9
	HEIGHT (CM)	29.3			11.9			5.0			20.3			18.0					
UPPER OVERBURDEN	TRNCH NO F 4	1	3	33.3	3	9	33.3	1	3	33.3	3	5	60.0	3	3	100.0	11	23	47.8
	HEIGHT (CM)	34.0			14.0			4.0			16.7			22.0					

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	1	76.1	8.8	1.3	13.8	0.0	0.0	0.0	3.0	1.5	9.3
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	2	77.5	9.0	1.0	12.5	0.0	0.0	0.0	2.7	3.7	6.1
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	3	72.7	8.3	2.0	17.0	0.0	0.0	0.1	3.9	0.4	12.6
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	4	68.5	10.0	1.5	20.0	0.0	0.0	0.0	4.5	1.0	14.5
----TOTALS FOR N----						294.8	36.1	5.8	63.3	0.0	0.0	0.1	14.1	6.6	42.5
----- AVERAGE FOR N -----						73.7	9.0	1.5	15.8	0.0	0.0	0.0	3.5	1.7	10.6
----- STANDARD DEV. N -----						3.5	0.6	0.4	2.9	0.0	0.0	0.0	0.7	1.2	3.2
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	1	74.1	7.8	1.3	16.8	0.0	0.0	0.0	3.2	2.7	10.9
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	2	68.9	10.0	1.3	19.8	0.0	0.0	0.0	1.2	5.6	13.0
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	3	67.9	11.5	2.3	18.3	0.0	0.0	0.0	4.1	2.8	11.4
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	4	71.4	9.3	1.8	17.5	0.0	0.0	0.0	7.0	1.7	8.8
----TOTALS FOR Y----						282.3	38.6	6.7	72.4	0.0	0.0	0.0	15.5	12.8	44.1
----- AVERAGE FOR Y -----						70.6	9.7	1.7	18.1	0.0	0.0	0.0	3.9	3.2	11.0
----- STANDARD DEV. Y -----						2.4	1.3	0.4	1.1	0.0	0.0	0.0	2.1	1.5	1.5
----GRAND TOTALS----						577.1	74.7	12.5	135.7	0.0	0.0	0.1	29.6	19.4	86.6
----REPORT AVER.----						72.1	9.3	1.6	17.0	0.0	0.0	0.0	3.7	2.4	10.8
----REPORT STANDARD DEVIATION----						3.4	1.1	0.4	2.5	0.0	0.0	0.0	1.6	1.6	2.5

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEOF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	1																	
	SEEDED					0.5	6.0	2.5	0.5	0.0	0.0	3.5	6.0	2.0	0.0				13.0		8.0	21.0
	UNSEEDED															0.0	0.0	0.0	1.0	5.5	0.0	6.5
	TOTAL															0.0	0.0	0.0	14.0	5.5	8.0	27.5
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	2																	
	SEEDED					0.0	2.0	0.0	0.5	0.0	0.0	1.0	3.5	1.0	0.0				3.5		4.5	8.0
	UNSEEDED															0.0	0.0	0.0	0.5	15.0	0.0	15.5
	TOTAL															0.0	0.0	0.0	4.0	15.0	4.5	23.5
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	3																	
	SEEDED					0.5	4.5	1.0	1.0	1.0	0.0	2.5	12.5	3.0	0.0				10.5		15.5	26.0
	UNSEEDED															0.0	0.0	0.0	0.0	2.5	0.0	2.5
	TOTAL															0.0	0.0	0.0	10.5	2.5	15.5	28.5
TAILINGS/TOPSOIL	GRASS	DRILL	N	N	4																	
	SEEDED					0.5	5.5	1.5	1.0	3.0	0.0	3.0	11.0	2.0	0.0				14.5		13.0	27.5
	UNSEEDED															0.0	0.0	0.0	0.5	7.0	0.0	7.5
	TOTAL															0.0	0.0	0.0	15.0	7.0	13.0	35.0
----- TOTALS FOR N -----																						
	SEEDED					1.5	18.0	5.0	3.0	4.0	0.0	10.0	33.0	8.0	0.0				41.5		41.0	82.5
	UNSEEDED															0.0	0.0	0.0	2.0	30.0	0.0	32.0
	TOTAL															0.0	0.0	0.0	43.5	30.0	41.0	114.5
----- AVERAGE FOR N -----																						
	SEEDED					0.4	4.5	1.3	0.8	1.0	0.0	2.5	8.3	2.0	0.0				10.4		10.3	20.6
	UNSEEDED															0.0	0.0	0.0	0.5	7.5	0.0	8.0
	TOTAL															0.0	0.0	0.0	10.9	7.5	10.3	28.6
----- STANDARD DEV. N -----																						
	SEEDED					0.2	1.5	0.9	0.3	1.2	0.0	0.9	3.6	0.7	0.0				4.2		4.3	7.7
	UNSEEDED															0.0	0.0	0.0	0.4	4.6	0.0	4.7
	TOTAL															0.0	0.0	0.0	4.3	4.6	4.3	4.1
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	1																	
	SEEDED					0.0	7.0	1.0	1.0	0.5	0.0	4.0	6.5	3.0	0.0				13.5		9.5	23.0
	UNSEEDED															0.0	0.0	0.0	2.5	6.0	0.0	8.5
	TOTAL															0.0	0.0	0.0	16.0	6.0	9.5	31.5
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	2																	
	SEEDED					0.0	1.0	2.5	0.0	0.5	0.0	1.0	3.5	1.5	0.0				5.0		5.0	10.0
	UNSEEDED															0.0	0.0	0.0	0.0	9.0	0.0	9.0
	TOTAL															0.0	0.0	0.0	5.0	9.0	5.0	19.0
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	3																	
	SEEDED					0.0	5.0	1.0	0.5	0.5	0.0	4.5	7.5	3.0	0.0				11.5		10.5	22.0
	UNSEEDED															0.0	0.0	0.0	1.0	10.0	0.0	11.0
	TOTAL															0.0	0.0	0.0	12.5	10.0	10.5	33.0
TAILINGS/TOPSOIL	GRASS	DRILL	Y	N	4																	
	SEEDED					0.0	7.0	1.0	0.5	2.0	0.0	4.5	3.5	1.5	0.0				15.0		5.0	20.0
	UNSEEDED															0.0	0.0	0.0	1.0	5.5	0.0	6.5
	TOTAL															0.0	0.0	0.0	16.0	5.5	5.0	26.5

12-05-83

TAILINGS-TOPSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT HARVEST	WATER	REPS														
		AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORMY	MESA	MEDF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
------TOTALS FOR Y																		
	SEEDED	0.0	20.0	5.5	2.0	3.5	0.0	14.0	21.0	9.0	0.0				45.0		30.0	75.0
	UNSEEDED											0.0	0.0	0.0	4.5	30.5	0.0	35.0
	TOTAL											0.0	0.0	0.0	49.5	30.5	30.0	110.0
------AVERAGE FOR Y																		
	SEEDED	0.0	5.0	1.4	0.5	0.9	0.0	3.5	5.3	2.3	0.0				11.3		7.5	18.8
	UNSEEDED											0.0	0.0	0.0	1.1	7.6	0.0	8.8
	TOTAL											0.0	0.0	0.0	12.4	7.6	7.5	27.5
------STANDARD DEV. Y																		
	SEEDED	0.0	2.4	0.6	0.4	0.6	0.0	1.5	1.8	0.8	0.0				3.8		2.5	5.2
	UNSEEDED											0.0	0.0	0.0	0.9	1.9	0.0	1.6
	TOTAL											0.0	0.0	0.0	4.5	1.9	2.5	5.5
----------GRAND TOTALS																		
	SEEDED	1.5	38.0	10.5	5.0	7.5	0.0	24.0	54.0	17.0	0.0				86.5		71.0	157.5
	UNSEEDED											0.0	0.0	0.0	6.5	60.5	0.0	67.0
	TOTAL											0.0	0.0	0.0	93.0	60.5	71.0	224.5
----------REPORT AVER.																		
	SEEDED	0.2	4.8	1.3	0.6	0.9	0.0	3.0	6.8	2.1	0.0				10.8		8.9	19.7
	UNSEEDED											0.0	0.0	0.0	0.8	7.6	0.0	8.4
	TOTAL											0.0	0.0	0.0	11.6	7.6	8.9	28.1
----------REPORT STANDARD DEVIATION																		
	SEEDED	0.2	2.1	0.8	0.3	1.0	0.0	1.3	3.2	0.7	0.0				4.0		3.8	6.6
	UNSEEDED											0.0	0.0	0.0	0.7	3.5	0.0	3.5
	TOTAL											0.0	0.0	0.0	4.5	3.5	3.8	4.9

TAILINGS-TOPSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP / HARVEST	ARFR ALIVE	ARFR TOTAL	ARFR % SURVIVAL	ARNO ALIVE	ARNO TOTAL	ARNO % SURVIVAL	CEMO ALIVE	CEMO TOTAL	CEMO % SURVIVAL	JUSC ALIVE	JUSC TOTAL	JUSC % SURVIVAL	ROMO ALIVE	ROMO TOTAL	ROMO % SURVIVAL	TOTAL ALIVE	TOTAL TOTAL	TOTAL % SURVIVAL
TAILINGS/TOPSOIL	BASIN NO F 1	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	15	15	100.0
	HEIGHT (CM)	43.0			16.0			7.3			16.3			23.3					
TAILINGS/TOPSOIL	BASIN NO F 2	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	15	15	100.0
	HEIGHT (CM)	51.0			16.0			9.7			13.0			18.3					
TAILINGS/TOPSOIL	BASIN NO F 3	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	2	3	66.7	12	15	80.0
	HEIGHT (CM)	34.0			16.0			5.0			14.0			14.5					
TAILINGS/TOPSOIL	BASIN NO F 4	2	3	66.7	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	12	15	80.0
	HEIGHT (CM)	43.5			12.3			4.0			14.7			19.3					
----- TOTALS FOR NO F		11	12	366.7	11	12	366.7	9	12	300.0	12	12	400.0	11	12	366.7	54	60	360.0
	HEIGHT (CM)	171.5			60.3			26.0			58.0			75.4					
----- AVERAGE FOR NO F		3	3	91.7	3	3	91.7	2	3	75.0	3	3	100.0	3	3	91.7	14	15	90.0
	HEIGHT (CM)	42.9			15.1			6.5			14.5			18.9					
----- STANDARD DEV. NO F		0	0	14.4	0	0	14.4	1	0	27.6	0	0	0.0	0	0	14.4	2	0	10.0
	HEIGHT (CM)	6.0			1.6			2.2			1.2			3.1					
TAILINGS/TOPSOIL	BASIN FERT 1	3	3	100.0	3	3	100.0	1	3	33.3	1	3	33.3	3	3	100.0	11	15	73.3
	HEIGHT (CM)	46.7			22.0			13.0			16.0			12.7					
TAILINGS/TOPSOIL	BASIN FERT 2	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	38.3			21.3			7.0			16.3			21.7					
TAILINGS/TOPSOIL	BASIN FERT 3	3	3	100.0	2	3	66.7	0	3	0.0	2	3	66.7	2	3	66.7	9	15	60.0
	HEIGHT (CM)	41.7			16.5			0.0			15.5			17.0					
TAILINGS/TOPSOIL	BASIN FERT 4	3	3	100.0	1	3	33.3	0	3	0.0	3	3	100.0	2	3	66.7	9	15	60.0
	HEIGHT (CM)	48.3			19.0			0.0			12.3			23.5					
----- TOTALS FOR FERT		12	12	400.0	9	12	300.0	2	12	66.6	9	12	300.0	10	12	333.4	42	60	280.0
	HEIGHT (CM)	175.0			78.8			20.0			60.1			74.9					
----- AVERAGE FOR FERT		3	3	100.0	2	3	75.0	1	3	16.6	2	3	75.0	3	3	83.4	11	15	70.0
	HEIGHT (CM)	43.8			19.7			5.0			15.0			18.7					
----- STANDARD DEV. FERT		0	0	0.0	1	0	27.6	1	0	16.7	1	0	27.6	1	0	16.6	2	0	11.1
	HEIGHT (CM)	4.0			2.2			5.4			1.6			4.2					

12-08-83

TAILINGS-TOPSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR A L I V E	ARFR T O T A L	ARFR % S U R V	ARNO A L I V E	ARNO T O T A L	ARNO % S U R V	CEMO A L I V E	CEMO T O T A L	CEMO % S U R V	JUSC A L I V E	JUSC T O T A L	JUSC % S U R V	ROMO A L I V E	ROMO T O T A L	ROMO % S U R V	TOTAL A L I V E	TOTAL T O T A L	TOTAL % S U R V
GRAND TOTALS		23	24	766.7	20	24	666.7	11	24	366.6	21	24	700.0	21	24	700.1	96	120	640.0
	HEIGHT (CM)	346.5			139.1			46.0			118.1			150.3					
REPORT AVER.		3	3	95.8	3	3	83.3	1	3	45.8	3	3	87.5	3	3	87.5	12	15	80.0
	HEIGHT (CM)	43.3			17.4			5.8			14.8			18.8					
REPORT STANDARD DEVIATION		0	0	11.0	1	0	23.6	1	0	37.0	1	0	23.2	0	0	16.1	2	0	14.5
	HEIGHT (CM)	5.1			3.0			4.2			1.4			3.7					

12-05-83

TAILINGS-SUBSOIL

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	1	81.4	1.3	1.0	16.3	0.0	0.0	0.0	3.3	4.3	8.7
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	2	87.6	1.3	0.3	10.8	0.0	0.0	0.0	0.7	3.2	6.9
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	3	93.7	2.5	0.0	3.8	0.0	0.0	0.0	2.4	1.0	0.4
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	4	81.4	3.3	0.0	15.3	0.0	0.0	0.0	5.2	3.6	6.5
----- TOTALS FOR N -----						344.1	8.4	1.3	46.2	0.0	0.0	0.0	11.6	12.1	22.5
----- AVERAGE FOR N -----						86.0	2.1	0.3	11.6	0.0	0.0	0.0	2.9	3.0	5.6
----- STANDARD DEV. N -----						5.1	0.8	0.4	4.9	0.0	0.0	0.0	1.6	1.2	3.1
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	1	76.1	2.8	0.8	20.3	0.0	0.0	0.0	2.4	13.8	4.1
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	2	86.5	2.5	0.5	10.5	0.0	0.0	0.0	0.7	4.2	5.6
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	3	75.4	2.0	0.3	22.3	0.0	0.0	0.0	1.3	7.2	13.8
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	4	82.2	1.5	0.0	16.3	0.0	0.0	0.0	4.3	11.3	0.7
----- TOTALS FOR Y -----						320.2	8.8	1.6	69.4	0.0	0.0	0.0	8.7	36.5	24.2
----- AVERAGE FOR Y -----						80.1	2.2	0.4	17.4	0.0	0.0	0.0	2.2	9.1	6.1
----- STANDARD DEV. Y -----						4.6	0.5	0.3	4.5	0.0	0.0	0.0	1.4	3.7	4.8
----- GRAND TOTALS -----						664.3	17.2	2.9	115.6	0.0	0.0	0.0	20.3	48.6	46.7
----- REPORT AVER. -----						83.0	2.2	0.4	14.5	0.0	0.0	0.0	2.5	6.1	5.8
----- REPORT STANDARD DEVIATION -----						5.7	0.7	0.4	5.5	0.0	0.0	0.0	1.5	4.1	4.1

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEDF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	1																	
	SEEDED					0.5	3.5	1.0	0.0	2.0	0.0	0.0	2.5	0.0	0.0				15.0		2.5	17.5
	UNSEEDED															0.0	0.0	0.0	0.0	9.0	0.0	9.0
	TOTAL															0.0	0.0	0.0	15.0	9.0	2.5	26.5
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	2																	
	SEEDED					0.0	1.5	0.0	0.0	0.0	0.0	6.0	1.0	1.0	0.0				7.5		2.0	9.5
	UNSEEDED															0.0	0.0	0.0	0.0	30.5	0.0	30.5
	TOTAL															0.0	0.0	0.0	7.5	30.5	2.0	40.0
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	3																	
	SEEDED					0.0	1.5	0.5	0.0	0.0	0.0	4.5	0.5	0.0	0.0				6.5		0.5	7.0
	UNSEEDED															0.0	0.0	0.0	0.5	5.5	0.0	6.0
	TOTAL															0.0	0.0	0.0	7.0	5.5	0.5	13.0
TAILINGS/SUBSOIL	GRASS	DRILL	N	N	4																	
	SEEDED					1.0	2.5	0.0	0.5	2.5	0.0	5.0	1.5	1.0	0.0				11.5		2.5	14.0
	UNSEEDED															0.0	0.0	0.0	0.0	2.5	0.0	2.5
	TOTAL															0.0	0.0	0.0	11.5	2.5	2.5	16.5
----- TOTALS FOR N -----																						
	SEEDED					1.5	9.0	1.5	0.5	4.5	0.0	23.5	5.5	2.0	0.0				40.5		7.5	48.0
	UNSEEDED															0.0	0.0	0.0	0.5	47.5	0.0	48.0
	TOTAL															0.0	0.0	0.0	41.0	47.5	7.5	96.0
----- AVERAGE FOR N -----																						
	SEEDED					0.4	2.3	0.4	0.1	1.1	0.0	5.9	1.4	0.5	0.0				10.1		1.9	12.0
	UNSEEDED															0.0	0.0	0.0	0.1	11.9	0.0	12.0
	TOTAL															0.0	0.0	0.0	10.3	11.9	1.9	24.0
----- STANDARD DEV. N -----																						
	SEEDED					0.4	0.8	0.4	0.2	1.1	0.0	1.3	0.7	0.5	0.0				3.4		0.8	4.0
	UNSEEDED															0.0	0.0	0.0	0.2	11.0	0.0	10.9
	TOTAL															0.0	0.0	0.0	3.3	11.0	0.8	10.5
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	1																	
	SEEDED					0.0	2.0	0.5	0.0	0.0	0.0	4.5	1.0	0.0	0.0				7.0		1.0	8.0
	UNSEEDED															0.0	0.0	0.0	0.0	16.0	0.0	16.0
	TOTAL															0.0	0.0	0.0	7.0	16.0	1.0	24.0
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	2																	
	SEEDED					0.0	2.0	1.5	0.0	0.5	1.0	6.0	1.0	0.0	0.0				11.0		1.0	12.0
	UNSEEDED															0.0	0.0	0.0	0.0	13.0	0.0	13.0
	TOTAL															0.0	0.0	0.0	11.0	13.0	1.0	25.0
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	3																	
	SEEDED					0.0	2.5	0.0	0.0	0.0	0.0	7.0	2.0	1.0	0.0				9.5		3.0	12.5
	UNSEEDED															0.0	0.0	0.0	0.0	11.0	0.0	11.0
	TOTAL															0.0	0.0	0.0	9.5	11.0	3.0	23.5
TAILINGS/SUBSOIL	GRASS	DRILL	Y	N	4																	
	SEEDED					0.5	1.5	0.0	0.0	1.5	0.0	6.5	0.5	0.0	0.0				10.0		0.5	10.5
	UNSEEDED															0.0	0.0	0.0	0.5	10.5	0.0	11.0
	TOTAL															0.0	0.0	0.0	10.5	10.5	0.5	21.5

12-05-83

TAILINGS-SUBSOIL

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEDF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
TOTALS FOR Y																						
	SEEDED					0.5	8.0	2.0	0.0	2.0	1.0	24.0	4.5	1.0	0.0				37.5		5.5	43.0
	UNSEEDED															0.0	0.0	0.0	0.5	50.5	0.0	51.0
	TOTAL															0.0	0.0	0.0	38.0	50.5	5.5	94.0
AVERAGE FOR Y																						
	SEEDED					0.1	2.0	0.5	0.0	0.5	0.3	6.0	1.1	0.3	0.0				9.4		1.4	10.8
	UNSEEDED															0.0	0.0	0.0	0.1	12.6	0.0	12.8
	TOTAL															0.0	0.0	0.0	9.5	12.6	1.4	23.5
STANDARD DEV. Y																						
	SEEDED					0.2	0.4	0.6	0.0	0.6	0.4	0.9	0.5	0.4	0.0				1.5		1.0	1.8
	UNSEEDED															0.0	0.0	0.0	0.2	2.2	0.0	2.0
	TOTAL															0.0	0.0	0.0	1.5	2.2	1.0	1.3
GRAND TOTALS																						
	SEEDED					2.0	17.0	3.5	0.5	6.5	1.0	47.5	10.0	3.0	0.0				78.0		13.0	91.0
	UNSEEDED															0.0	0.0	0.0	1.0	98.0	0.0	99.0
	TOTAL															0.0	0.0	0.0	79.0	98.0	13.0	190.0
REPORT AVER.																						
	SEEDED					0.3	2.1	0.4	0.1	0.8	0.1	5.9	1.3	0.4	0.0				9.8		1.6	11.4
	UNSEEDED															0.0	0.0	0.0	0.1	12.3	0.0	12.4
	TOTAL															0.0	0.0	0.0	9.9	12.3	1.6	23.8
REPORT STANDARD DEVIATION																						
	SEEDED					0.4	0.6	0.5	0.2	1.0	0.3	1.2	0.7	0.5	0.0				2.6		0.9	3.2
	UNSEEDED															0.0	0.0	0.0	0.2	7.9	0.0	7.9
	TOTAL															0.0	0.0	0.0	2.6	7.9	0.9	7.5

12-08-83

TAILINGS-SUBSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR A L I V E	ARFR T O T A L	ARFR % S U R V	ARNO A L I V E	ARNO T O T A L	ARNO % S U R V	CEMO A L I V E	CEMO T O T A L	CEMO % S U R V	JUSC A L I V E	JUSC T O T A L	JUSC % S U R V	ROMO A L I V E	ROMO T O T A L	ROMO % S U R V	TOTAL A L I V E	TOTAL T O T A L	TOTAL % S U R V
TAILINGS/SUBSOIL	BASIN NO F 1	3	3	100.0	1	3	33.3	1	3	33.3	3	3	100.0	3	3	100.0	11	15	73.3
	HEIGHT (CM)	33.7			10.0			4.0			15.0			9.7					
TAILINGS/SUBSOIL	BASIN NO F 2	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	2	3	66.7	12	15	80.0
	HEIGHT (CM)	32.0			12.3			3.0			10.3			10.5					
TAILINGS/SUBSOIL	BASIN NO F 3	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	2	3	66.7	12	15	80.0
	HEIGHT (CM)	27.3			16.0			3.5			15.0			9.5					
TAILINGS/SUBSOIL	BASIN NO F 4	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	15	15	100.0
	HEIGHT (CM)	35.3			20.3			7.0			15.3			15.3					
----- T O T A L S FOR NO F -----		12	12	400.0	9	12	300.0	7	12	233.3	12	12	400.0	10	12	333.4	50	60	333.3
	HEIGHT (CM)	128.3			58.6			17.5			55.6			45.0					
----- AVERAGE FOR NO F -----		3	3	100.0	2	3	75.0	2	3	58.3	3	3	100.0	3	3	83.3	13	15	83.3
	HEIGHT (CM)	32.1			14.7			4.4			13.9			11.3					
----- STANDARD DEV. NO F -----		0	0	0.0	1	0	27.6	1	0	27.7	0	0	0.0	1	0	16.6	2	0	10.0
	HEIGHT (CM)	3.0			3.9			1.6			2.1			2.4					
TAILINGS/SUBSOIL	BASIN FERT 1	3	3	100.0	3	3	100.0	0	3	0.0	3	3	100.0	3	3	100.0	12	15	80.0
	HEIGHT (CM)	45.0			27.0			0.0			15.3			15.7					
TAILINGS/SUBSOIL	BASIN FERT 2	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	43.7			24.0			7.3			13.3			13.7					
TAILINGS/SUBSOIL	BASIN FERT 3	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	42.7			25.3			11.0			14.3			20.7					
TAILINGS/SUBSOIL	BASIN FERT 4	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	40.0			20.0			9.0			15.0			23.0					
----- T O T A L S FOR FERT -----		12	12	400.0	10	12	333.3	6	12	200.0	12	12	400.0	12	12	400.0	52	60	346.7
	HEIGHT (CM)	171.4			96.3			27.3			57.9			73.1					
----- AVERAGE FOR FERT -----		3	3	100.0	3	3	83.3	2	3	50.0	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	42.9			24.1			6.8			14.5			18.3					
----- STANDARD DEV. FERT -----		0	0	0.0	1	0	28.9	1	0	37.3	0	0	0.0	0	0	0.0	1	0	4.7
	HEIGHT (CM)	1.8			2.6			4.2			0.8			3.7					

TAILINGS-SUBSOIL

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TOTAL	ARFR %SURV	ARNO ALIVE	ARNO TOTAL	ARNO %SURV	CEMO ALIVE	CEMO TOTAL	CEMO %SURV	JUSC ALIVE	JUSC TOTAL	JUSC %SURV	ROWO ALIVE	ROWO TOTAL	ROWO %SURV	TOTAL ALIVE	TOTAL TOTAL	TOTAL %SURV
GRAND TOTALS																			
		24	24	800.0	19	24	633.3	13	24	433.3	24	24	800.0	22	24	733.4	102	120	680.0
	HEIGHT (CM)	299.7			154.9			44.8			113.5			118.1					
REPORT AVER.																			
		3	3	100.0	2	3	79.2	2	3	54.2	3	3	100.0	3	3	91.7	13	15	85.0
	HEIGHT (CM)	37.5			19.4			5.6			14.2			14.8					
REPORT STANDARD DEVIATION																			
		0	0	0.0	1	0	28.6	1	0	33.1	0	0	0.0	0	0	14.4	1	0	8.0
	HEIGHT (CM)	5.9			5.8			3.4			1.6			4.7					

SOIL	SEED MIX	SEED METHOD	FERT	WATER HARVEST	REPS	COVER BARE GROUND %	ROCK %	LITTER %	VEGETATION %	TREE %	SHRUB %	ANN. GRASS %	PER. GRASS %	ANN. FORB %	PER. FORB %
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	1	87.9	5.3	0.3	6.5	0.0	0.0	0.0	0.4	0.6	5.5
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	2	76.0	20.0	0.0	4.0	0.0	0.0	0.0	2.0	1.5	0.5
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	3	80.7	8.0	0.3	11.0	0.0	0.0	0.0	2.1	7.2	1.7
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	4	75.9	21.3	0.8	2.0	0.0	0.0	0.0	0.3	0.8	0.9
----- T O T A L S FOR N -----						320.5	54.6	1.4	23.5	0.0	0.0	0.0	4.8	10.1	8.6
----- AVERAGE FOR N -----						80.1	13.7	0.4	5.9	0.0	0.0	0.0	1.2	2.5	2.2
----- STANDARD DEV. N -----						4.9	7.1	0.3	3.4	0.0	0.0	0.0	0.9	2.7	2.0
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	1	78.4	16.3	0.8	4.5	0.0	0.0	0.0	2.1	2.4	0.0
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	2	79.4	14.5	0.8	5.3	0.0	0.0	0.0	1.4	0.3	3.6
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	3	84.9	7.5	0.8	6.8	0.0	0.0	0.0	0.6	4.2	2.0
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	4	78.9	11.8	0.3	9.0	0.0	0.0	0.0	0.5	0.2	8.3
----- T O T A L S FOR Y -----						321.6	50.1	2.7	25.6	0.0	0.0	0.0	4.6	7.1	13.9
----- AVERAGE FOR Y -----						80.4	12.5	0.7	6.4	0.0	0.0	0.0	1.1	1.8	3.5
----- STANDARD DEV. Y -----						2.6	3.3	0.2	1.7	0.0	0.0	0.0	0.7	1.7	3.1
----- G R A N D T O T A L S -----						642.1	104.7	4.1	49.1	0.0	0.0	0.0	9.4	17.2	22.5
----- R E P O R T A V E R. -----						80.3	13.1	0.5	6.1	0.0	0.0	0.0	1.2	2.2	2.8
----- REPORT STANDARD DEVIATION -----						3.9	5.6	0.3	2.7	0.0	0.0	0.0	0.8	2.3	2.7

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS	AGDA	AGIN	AGINE	AGSM	AGTRI	ELCI	ORHY	MESA	MEDF	JUV. GRASS	TREE	SHRUB	ANN. GRASS	PER. GRASS	ANN. FORB	PER. FORB	TOTAL
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	1																	
	SEEDED					0.0	1.0	1.5	0.0	0.0	0.0	12.5	1.5	0.0	0.0				15.0		1.5	16.5
	UNSEEDED															0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL															0.0	0.0	0.0	15.0	0.0	1.5	24.5
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	2																	
	SEEDED					0.0	0.0	0.5	0.0	1.0	0.0	3.5	0.0	0.5	0.0				5.0		0.5	5.5
	UNSEEDED															0.0	0.0	0.0	0.0	4.5	0.0	4.5
	TOTAL															0.0	0.0	0.0	5.0	4.5	0.5	10.0
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	3																	
	SEEDED					0.5	3.0	0.5	0.0	0.5	0.0	9.5	0.5	0.5	2.0				16.0		1.0	17.0
	UNSEEDED															0.0	0.0	0.0	0.0	8.0	0.0	8.0
	TOTAL															0.0	0.0	0.0	16.0	8.0	1.0	25.0
TAILINGS/OVERBURDEN	GRASS	DRILL	N	N	4																	
	SEEDED					1.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.5	0.0				3.5		0.5	4.0
	UNSEEDED															0.0	0.0	0.0	0.0	10.5	0.0	10.5
	TOTAL															0.0	0.0	0.0	3.5	10.5	0.5	14.5
----- TOTALS FOR N -----																						
	SEEDED					1.5	4.0	2.5	0.0	1.5	0.0	28.0	2.0	1.5	2.0				39.5		3.5	43.0
	UNSEEDED															0.0	0.0	0.0	0.0	31.0	0.0	31.0
	TOTAL															0.0	0.0	0.0	39.5	31.0	3.5	74.0
----- AVERAGE FOR N -----																						
	SEEDED					0.4	1.0	0.6	0.0	0.4	0.0	7.0	0.5	0.4	0.5				9.9		0.9	10.8
	UNSEEDED															0.0	0.0	0.0	0.0	7.8	0.0	7.8
	TOTAL															0.0	0.0	0.0	9.9	7.8	0.9	18.5
----- STANDARD DEV. N -----																						
	SEEDED					0.4	1.2	0.5	0.0	0.4	0.0	4.2	0.6	0.2	0.9				5.7		0.4	6.0
	UNSEEDED															0.0	0.0	0.0	0.0	2.1	0.0	2.1
	TOTAL															0.0	0.0	0.0	5.7	2.1	0.4	6.5
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	1																	
	SEEDED					2.0	1.5	1.5	0.5	2.5	0.0	19.5	0.0	0.0	0.0				27.5		0.0	27.5
	UNSEEDED															0.0	0.0	0.0	0.0	5.5	0.0	5.5
	TOTAL															0.0	0.0	0.0	27.5	5.5	0.0	33.0
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	2																	
	SEEDED					0.5	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.5	0.0				14.5		0.5	15.0
	UNSEEDED															0.0	0.0	0.0	0.0	5.0	0.0	5.0
	TOTAL															0.0	0.0	0.0	14.5	5.0	0.5	20.0
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	3																	
	SEEDED					0.0	1.0	1.5	0.0	0.5	0.0	7.5	0.5	0.0	0.5				11.0		0.5	11.5
	UNSEEDED															0.0	0.0	0.0	0.0	8.0	0.0	8.0
	TOTAL															0.0	0.0	0.0	11.0	8.0	0.5	19.5
TAILINGS/OVERBURDEN	GRASS	DRILL	Y	N	4																	
	SEEDED					0.0	0.5	0.0	0.0	0.0	0.0	6.0	2.5	0.0	0.0				6.5		2.5	9.0
	UNSEEDED															0.0	0.0	0.0	0.0	6.0	0.0	6.0
	TOTAL															0.0	0.0	0.0	6.5	6.0	2.5	15.0

DENSITY (PLANTS/SQ. METER)

SOIL	SEED MIX	SEED METH	FERT	WATER HARVEST	REPS						JUV.			ANN.	PER.	ANN.	PER.	
		AGDA	AGIN	AGINE	AGSN	ASTRE	ELCI	ORMY	MESA	MEDF	GRASS	TREE	SHRUB	GRASS	GRASS	FORB	FORB	TOTAL
------TOTALS FOR Y------																		
	SEEDED	2.5	3.0	3.0	0.5	3.0	0.0	47.0	3.0	0.5	0.5				59.5		3.5	63.0
	UNSEEDED											0.0	0.0	0.0	0.0	24.5	0.0	24.5
	TOTAL											0.0	0.0	0.0	59.5	24.5	3.5	87.5
------AVERAGE FOR Y------																		
	SEEDED	0.6	0.8	0.8	0.1	0.8	0.0	11.8	0.8	0.1	0.1				14.9		0.9	15.8
	UNSEEDED											0.0	0.0	0.0	0.0	6.1	0.0	6.1
	TOTAL											0.0	0.0	0.0	14.9	6.1	0.9	21.9
------STANDARD DEV. Y------																		
	SEEDED	0.8	0.6	0.8	0.2	1.0	0.0	5.4	1.0	0.2	0.2				7.8		1.0	7.1
	UNSEEDED											0.0	0.0	0.0	0.0	1.1	0.0	1.1
	TOTAL											0.0	0.0	0.0	7.8	1.1	1.0	6.7
----------GRAND TOTALS----------																		
	SEEDED	4.0	7.0	5.5	0.5	4.5	0.0	75.0	5.0	2.0	2.5				99.0		7.0	106.0
	UNSEEDED											0.0	0.0	0.0	0.0	55.5	0.0	55.5
	TOTAL											0.0	0.0	0.0	99.0	55.5	7.0	161.5
----------REPORT AVER.----------																		
	SEEDED	0.5	0.9	0.7	0.1	0.6	0.0	9.4	0.6	0.3	0.3				12.4		0.9	13.3
	UNSEEDED											0.0	0.0	0.0	0.0	6.9	0.0	6.9
	TOTAL											0.0	0.0	0.0	12.4	6.9	0.9	20.2
----------REPORT STANDARD DEVIATION----------																		
	SEEDED	0.7	1.0	0.7	0.2	0.8	0.0	5.4	0.9	0.3	0.7				7.3		0.7	7.0
	UNSEEDED											0.0	0.0	0.0	0.0	1.9	0.0	1.9
	TOTAL											0.0	0.0	0.0	7.3	1.9	0.7	6.8

TAILINGS-OVERBURDEN

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TAR	ARFR % SURV	ARNO ALIVE	ARNO TAR	ARNO % SURV	CENO ALIVE	CENO TAR	CENO % SURV	JUSC ALIVE	JUSC TAR	JUSC % SURV	ROWO ALIVE	ROWO TAR	ROWO % SURV	TOTAL ALIVE	TOTAL TAR	TOTAL % SURV
TAILINGS/OVERBURDEN BASIN	NO F 1	3	3	100.0	2	3	66.7	1	3	33.3	3	3	100.0	3	3	100.0	12	15	80.0
	HEIGHT (CM)	45.3			30.0			14.0			22.0			23.3					
TAILINGS/OVERBURDEN BASIN	NO F 2	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	43.3			12.0			4.5			15.3			13.0					
TAILINGS/OVERBURDEN BASIN	NO F 3	3	3	100.0	3	3	100.0	2	3	66.7	3	3	100.0	3	3	100.0	14	15	93.3
	HEIGHT (CM)	41.3			20.7			13.5			17.7			17.0					
TAILINGS/OVERBURDEN BASIN	NO F 4	2	3	66.7	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	12	15	80.0
	HEIGHT (CM)	26.5			10.3			7.0			12.3			10.3					
----- TOTALS FOR	NO F	11	12	366.7	11	12	366.7	6	12	200.0	12	12	400.0	12	12	400.0	52	60	346.6
	HEIGHT (CM)	156.4			73.0			39.0			67.3			63.6					
----- AVERAGE FOR	NO F	3	3	91.7	3	3	91.7	2	3	50.0	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	39.1			18.3			9.8			16.8			15.9					
----- STANDARD DEV.	NO F	0	0	14.4	0	0	14.4	1	0	16.7	0	0	0.0	0	0	0.0	1	0	6.6
	HEIGHT (CM)	7.4			7.8			4.1			3.5			4.9					
TAILINGS/OVERBURDEN BASIN	FERT 1	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	33.7			16.5			4.0			12.0			6.7					
TAILINGS/OVERBURDEN BASIN	FERT 2	3	3	100.0	2	3	66.7	2	3	66.7	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	35.3			19.0			6.0			13.0			23.0					
TAILINGS/OVERBURDEN BASIN	FERT 3	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	3	3	100.0	15	15	100.0
	HEIGHT (CM)	33.7			12.0			4.0			17.7			12.7					
TAILINGS/OVERBURDEN BASIN	FERT 4	3	3	100.0	3	3	100.0	1	3	33.3	3	3	100.0	3	3	100.0	13	15	86.7
	HEIGHT (CM)	33.7			17.3			10.0			16.3			18.0					
----- TOTALS FOR	FERT	12	12	400.0	10	12	333.4	8	12	266.7	12	12	400.0	12	12	400.0	54	60	360.1
	HEIGHT (CM)	136.4			64.8			24.0			59.0			60.4					
----- AVERAGE FOR	FERT	3	3	100.0	3	3	83.3	2	3	66.7	3	3	100.0	3	3	100.0	14	15	90.0
	HEIGHT (CM)	34.1			16.2			6.0			14.8			15.1					
----- STANDARD DEV.	FERT	0	0	0.0	1	0	16.6	1	0	23.6	0	0	0.0	0	0	0.0	1	0	5.8
	HEIGHT (CM)	0.7			2.6			2.4			2.3			6.1					

TAILINGS-OVERBURDEN

SURVIVAL AND HEIGHT

SOIL	WATER FERT REP HARVEST	ARFR ALIVE	ARFR TAR	ARFR % SURV	ARNO ALIVE	ARNO TAR	ARNO % SURV	CEMO ALIVE	CEMO TAR	CEMO % SURV	JUSC ALIVE	JUSC TAR	JUSC % SURV	ROMO ALIVE	ROMO TAR	ROMO % SURV	TOTAL ALIVE	TOTAL TAR	TOTAL % SURV
GRAND TOTALS																			
		23	24	766.7	21	24	700.1	14	24	466.7	24	24	800.0	24	24	800.0	106	120	706.7
	HEIGHT (CM)	292.8			137.8			63.0			126.3			124.0					
REPORT AVER.																			
		3	3	95.8	3	3	87.5	2	3	58.3	3	3	100.0	3	3	100.0	13	15	88.3
	HEIGHT (CM)	36.6			17.2			7.9			15.8			15.5					
REPORT STANDARD DEVIATION																			
		0	0	11.0	0	0	16.1	1	0	22.1	0	0	0.0	0	0	0.0	1	0	6.4
	HEIGHT (CM)	5.8			5.9			3.9			3.2			5.5					

This page is a reference page used to track documents internally for the Division of Oil, Gas and Mining

Mine Permit Number M0470007 Mine Name Vernal Phosphate
Operator SF Phosphate Date April 4, 1984
TO _____ FROM _____

__CONFIDENTIAL __BOND CLOSURE __LARGE MAPS X EXPANDABLE
__MULTIPUL DOCUMENT TRACKING SHEET __NEW APPROVED NOI
__AMENDMENT _OTHER_____

Description YEAR-Record Number

__NOI X Incoming __Outgoing __Internal __Superceded

Revegetation Test Plot Results

___NOI __Incoming __Outgoing __Internal __Superceded

__NOI __Incoming __Outgoing __Internal __Superceded

__NOI __Incoming __Outgoing __Internal __Superceded

__TEXT/ 81/2 X 11 MAP PAGES __11 X 17 MAPS __LARGE MAP

COMMENTS: _____

CC: _____